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News Print Merger Rumors Rife in Canada

Recently Announced Consolidation of Anglo-Canadian Pulp & Paper Co. With Canada Power & Paper Co., Leads to Reports of Fight For Control With International Paper Co.—Latter Said To Be Negotiating For Large Mill In North-West and Another In Newfoundland—May Take Bathurst Plant In New Brunswick

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 30, 1930.—For years past no industry in Canada has been the subject of so many rumors as the news print industry, and now, with the dog days approaching, it looks as though news print rumors are going to be one of the principal mainstays of reporters searching for readable topics. The merger of the Anglo-Canadian Pulp and Paper Company with Canada Power and Paper has started them going again in fine fashion. There are now rumors of a "fight for control," whatever that may mean, between Canada Power and Paper and the International Paper Company. The Canadian combination is pictured as having secured "a slight edge" over the International, and the International is pictured as being out now to secure "a slight edge" over Canada Power and Paper. The "slight edge" refers to the matter of news print capacity, though what the capacity to produce a few tons more will accomplish nobody seems to know.

At any rate, various independent companies are now being sized up with a view to estimating what may happen if they are snapped up by one or other of the two big concerns. It is stated that International is negotiating for a large mill in the Northwest and another in Newfoundland, and that it is possible it may take over the Bathurst Power and Paper Company, in New Brunswick. Another rumor is that both International and Canada Power and Paper are after the Fraser Companies, Ltd., who have big mills on the borders of New Brunswick and Maine. Not long ago it was said that the Abitibi Power and Paper Company, which has a daily capacity of 2,200 tons of news print, might figure in a merger with one of the big two mentioned, but for the moment this rumor does not figure in the calculations of the merger mongers.

The Bathurst Report

The story taken most seriously is that in regard to the Bathurst Company, and the *Montreal Star* declares that the rumor that it may be taken over by the International is not regarded seriously in the best-informed circles.

When the Nesbitt-Thompson group in Montreal acquired the Bathurst properties from Angus McLean and completely changed the capital structure, it was understood that Mr. Graustein of International Paper fame, made a "dicker," by which he got in on a fifty-fifty basis. At that time there was a grand scramble for news print properties but the picture has since changed very materially. In the meantime it is reported that the International Paper's interest has been wholly or largely placed with a big syndicate which has an important interest in other news print company shares.

In a letter to the shareholders of the Bathurst Power and Paper Company, Nesbitt, Thompson and Co., the investment house identified with the flotation, say:

"The annual report of Bathurst Power and Paper Company, Ltd., will be forwarded to shareholders within the next few days. Although the earnings will not be as good for 1929 as they were for 1928, due to conditions prevailing in the news print industry and the sulphite and kraft pulp market, we have as much confidence in the property today as we had when we first distributed the company's securities. At the present time net current assets of your company amount to $2,364,675.98, equivalent to approximately $6 per share on the 400,000 shares of Class A stock outstanding. Total assets of the company are $25,098,920 and the company has no bonded debt or preferred shares.

"Your company's plants, which have a daily capacity of 130 tons of news print, 65 tons of sulphite, and 75 tons of kraft pulp, are in excellent shape, and when running to full capacity can produce at low cost. Your company has a 15,000 h.p. hydro-electric development with possibilities of a further 35,000 h.p. development. Its timber limits are increasing in value and are the equal of any in Canada in quality and quantity per acre, and are estimated to contain 18,000,000 cords. It is hoped that conditions in the industry will improve within a reasonable time, and we would recommend our clients who hold Bathurst stock to retain their holdings as the business and prospects of the company do not warrant the present low market price."

Important Orders from England

Since the announcement of the acquisition of Anglo-Canadian Pulp and Paper Mills by Canada Power and Paper Corporation, important orders for news print are reported to have been secured from England by the company, and this will help to increase the output. As the Rothermere interests are now large shareholders in Canada Power it is expected that the large news print group which they control in England will look increasingly to Canada for news print supplies. For some time past Anglo-Canadian has been selling its products to Hearst in the United States and to Northcliffe papers in England. The details of contracts are not known but it is stated definitely that earnings are more than sufficient to cover the funded debt obligations and the preferred dividends.

St. Lawrence Corporation

The newly-formed St. Lawrence Corporation, it is said, may discontinue the manufacture of news print at the Brompton mills and center this phase of its productive activities in the St. Lawrence mills at Three Rivers, where there are six machines with

a capacity of 450 tons per day. At present Brompton has a news print capacity of 120 tons at the Bromptonville mill, and 130 tons at the East Angus mill. In addition to these units, Brompton Pulp and Paper has facilities for the production of 70 tons of boxboard, 40 tons of kraft, manila and fiber papers and ground wood pulp.

Maclaren Plant Soon Ready

The 250-ton news print mill of the James Maclaren Company at Buckingham, Que., is expected to come into operation in August, Meanwhile the Buckingham Power Company has taken out incorporation papers at Quebec, the object being to take over the hydro-power development of the Maclaren interests on the Lievre River.

Among the incorporators are Albert Maclaren, Alexander Maclaren, Robert Maclaren Kenny, Thomas Frederick Kenny, and Charles Henry Maclaren.

The charter gives the company wide powers. The company, however, will engage primarily in the generation and distribution of hydro-electric energy. The charter provides that the distribution of electricity within the province of Quebec "will be restricted to the territories comprised within the present judicial districts of Hull, Montcalm, Pontiac, Terrebonne, Montreal and Beauharnois."

At Masson a development of 100,000 h.p. is under way while at Buckingham there is a 15,000 h.p. development which is being increased to 25,000 h.p. Public financing of the Buckingham Power Company will be carried out by Montreal investment houses shortly, it is said.

That Newfoundland Scheme

A despatch from St. Johns, Newfoundland, said that while the Government has decided not to take any immediate steps regarding the Reid-Hearst agreement to establish a news print plant on Indian Bay, Premier Sir Richard Squires has announced that the project will be taken under consideration this year. Under the proposed plan, the mill would have a daily output of 1,000 tons and would be supplied with timber from the Gander area and Labrador.

Pine and Fir Seed

A heavy crop of seed of yellow pine was gathered in 1929 in British Columbia by the officers of the Forest Service, Department of the Interior, and a considerable quantity will be available for distribution. A fair crop of Sitka spruce seed was also obtained. On the other hand the crop of Douglas fir seed of the coast variety was very small, though the trees in the interior bore fairly well. It is the seed of the coast variety of Douglas fir, however, which has been found suitable for reforestation purposes, particularly in Great Britain, where, on the other hand, the mountain variety does not succeed well.

Saguenay Pulp Liquidation

It is announced that the liquidation of Saguenay Pulp and Power Company will shortly pay a dividend of 5 per cent, which on a basis of $5 par value on the preferred stock, will amount to 25 cents a share.

This will apply to $3,500,000 of the preferred stock, and amounts to $175,000. As the distribution of the preferred stock will absorb the entire surplus now that it is in the hands of the liquidator, there will be nothing paid on the common.

A. W. Agrell Injured

A. W. Agrell, superintendent of the Patten Paper Company's mill at Kaukauna, Wis., was injured last week when his automobile was ditched. A gust of wind blew a quantity of flowers in his face as he was carrying them to his home at Appleton, Wis. He lost control of the machine for a few seconds and it went into the ditch. Mr. Agrell was cut and bruised, but none of his injuries were serious.

Work of The Import Committee

Foreign competition in direct mail advertising, developed through the printing abroad of advertising literature, mailed under foreign postage from European cities to the customers of American merchants, is the subject of an administrative provision of the Tariff Act of 1930, now in effect. The new provision is of vital consequence to not only domestic paper manufacturers, but also to American lithographers and printers, and to the working men employed in these industries. This provision, not hitherto referred to in reports of the provisions of the new tariff law, was enacted through the efforts of the Import Committee of the American Paper Industry.

Back of that provision is a practice which has grown to tremendous volume in the last few years, under which American merchants would order printed abroad advertisements, often handsome in artistic design, of their domestic business. This direct mail advertising, mailed abroad, and carrying a foreign postage stamp and post mark would invariably attract the attention of the person addressed. The appeal of such advertising was such that one of the transatlantic steamers carried on one trip 36,000 pieces of advertising matter for a single American merchant. The representatives of the foreign printers established elaborate suites of offices in New York and other large cities for the sale of such advertising to American dealers.

This practice deprived American paper manufacturers, printers, lithographers, and working men of a large volume of business, because all such material came to this country duty free. If shipped in quantities to an American consignee such literature would be dutiable at rates of duty ranging from 25 per cent upward according to the method of production.

The Import Committee of the American Paper Industry, working in behalf of American paper manufacturers took up this question in an effort to have this material held dutiable under the Tariff Act of 1922, but international postal practices delayed definite action. With a tariff revision pending, it was decided to seek a provision in the new law which would specifically provide for the imposition of a duty on such shipments. The text of the provision relating to advertising material, contained in the new law, and which specifically excludes such direct mail advertising matter from free entry, is as follows:—

SEC. 320. RECIPROCAL AGREEMENTS RELATING TO ADVERTISING MATTER.—With the advice and consent of the President, the Secretary of the Treasury and the Postmaster General, jointly, may on behalf of the United States, enter into a reciprocal agreement with any foreign country to provide for the entry free of duty in the respective countries of dispatches or shipments through the mails of circulars, folders, pamphlets, books, and cards, in the nature of advertising matter (except such matter as may be printed, manufactured, or produced in a foreign country, advertising the sale of articles by persons carrying on business in the United States or containing announcements relating to the merchandise or business of such persons) to individual addresses, and may, in the event any such agreement is entered into, prescribe such rules and regulations as they may deem necessary relating to the customs and postal treatment of such matter in the United States.

In its investigations on this subject the Import Committee of the American Paper Industry collaborated with the New York Employing Printers, the Lithographers National Association and other interested organizations, including representatives of the American Federation of Labor.

Mountain Mill Improvements

[FROM OUR REGULAR CORRESPONDENT]

LEE, Mass., June 30, 1930.—Improvements, including provision for a greater beating capacity and a lengthened Fourdrinier part, are being made at the plant of the Mountain Mill Company here. The additions will increase the output of glassine and grease proof papers by 20 per cent.

Pennsylvania Fine Paper Mills Speed Output

Manufacturers Operating On Five Day Schedule of Late Have Sufficient Volume of Orders On Hand to Return to Full Time Weekly Production—Paper Board Plants and Converters Are Also More Active, Due to Broadening Demand From Paper Box Makers

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., June 30, 1930.—Looking ahead to better times in the country generally with the clearing of legislative action on the tariff and plans for future business developments resulting from its settlement, the paper trade is showing signs of revived interest on the part of consumers in the local territory. All along the line the trade has been more active with gradually improving demand that clearly indicates preparation for more active industrial life. Though the upward swing has no indicated extensive stocking for future needs it has shown that consumers are prepared to extend their business plans with the summer month looking ahead to broader activities with the Fall. Prices, however, are not advancing, and present orders are filled at the values of the past fortnight when southern krafts were advanced $5 per ton. Bags are steadier and like other grades of converted papers are in growing demand. The slight advance in kraft has likewise been productive of a similar increase in the price of bags into which the content enters. Tissues and summer goods, such as sanitary products, are moving steadily in a fair volume of business although normal orders are not forthcoming, the cut in present consumption being about 15 per cent below the usual seasonal volume.

Manufacturers of fine paper who have been operating on five day schedule report sufficient orders on hand to have necessitated return to full weekly operation and this was effective in the past week. There is not much buying ahead but orders will maintain present schedule for a few weeks in those mills where the five day working week has been in force for the past month or more. A few fine paper manufacturers report full time schedule for the rest of the month and if orders continue to come in at present rate there will be normal operations for the next month and later. Board manufacturers and converters of paper board product, also, are more active, with operations gradually extending as the box manufacturers report broadening demands.

Jute Products Cut

Though the market for jute products will likely show advanced prices in the near future in so far as the mills are concerned owing to the increase in the raw materials from India, the distributors in the Philadelphia trade are making offerings on paper stocks on hand underneath the manufacturers quotations in order to clear up goods held over. While some of the jute papers have been likewise cut in fractional reduction there has been keen competition in the trade on sales of jute twines and in the past week prices have been sliced from ½ to 1 cent per pound by the clean out offernge from distributors who are willing to clear up the few stale stocks at a loss rather than carry over present goods into Fall. Manufacturers hold prices steady and look for an advance shortly when production is again at a normal rate. Few jute twines are on hand as the clearing offerings are made by dealer—a paradoxical condition in view of possible rises.

Paper Stock Slightly More Active

As mills gain in operation schedule the paper stock market spruced up with more activity than has been experienced for many weeks. There was a wider demand for the better grades of materials that have been accumulated sparsely as the duller markets of the past few months have been little effective in bringing into warehouses necessary supplies to meet the broader scope of demands. There is plenty of the cheaper stock to be had so that the slightly improved conditions did not materially affect these commodities. Mills, however, have been making more frequent requests for prizes on the better grades of stock with few dealers able to meet the volume needed if the present inquiries materialize into orders.

Paper and Twine Association Outing

Wth the memory of one of the most entertaining programs of outdoor sports mingled with goodfellowship of the dinner table, associates and guests of the Paper and Twine Merchants Association rounded out its 1930 outing at the Baederwood Country Club last Thursday. With a wide range in sports to fill in the afternoon and evening the members after partaking of the noon luncheon served at the Club House gathered on the spacious green of the golf course and then entered into the spirited grouping of foursomes for the annual cup award. Those who preferred other sports joined in the numerous prize contests which were arranged as part of the program. In the golf tournament the low gross award of the Association Cup to be held over the year by the winner went to E. L. Richards, of the Buffalo Envelope Company, while the low net cup to be held permanently was awarded to T. H. B. Smythe, head of the J. L. N. Smythe Company. The victor in the quoit contest was President George K. Hooper of the Hooper Paper and Twine Company, president of the Paper and Twine Association. Tennis Match trophy of a silver cup was awarded to W. V. Edkins, of the Morice Jute Mills, while the guest invitation prize went to Mr. Muller of the Orono Pulp and Paper Company. During the dinner in the evening a brief word of welcome was extended by President Hooper who acted as toast master when the awards were announced. The evening was given over to individual entertainment offered in the many sporting facilities of the club, with the thirty members joining in the games.

Morgan H. Thomas Improves and Leaves Hospital

President Morgan H. Thomas, of the Garrett-Buchanan Company, 16-20 South 6th street, who has been confined to the hospital for the past three months, has recovered from his recent serious relapses from several operations performed while in the Bryn Mawr Hospital and was last Thursday removed to his summer home in Ocean City. While President Thomas was able to be removed to his summer residence he will not return to his desk before Labor Day but will devote the summer time to recuperating and regaining his strength at the shore resort.

Curtis & Bro. Mills Expand Production

Both mills of the fine paper manufacturing firm of Curtis & Bros., Inc., with local executive offices in the Public Ledger Building, have been placed on full time operation. The Mt. Holly Mills, at Mt. Holly Springs, Pa., have been operating at full capacity for some time and with a good quantity of paper produced in these mills in demand for distributors in various parts of the country. The Mt. Holly Mills recently were placed under George Knowles, well known as an expert on fine papers and the production of bonds and ledgers is being supervised by this prominent mill executive recently associated with the Reading Paper Mills, Reading, Pa. Superintendent Knowles has been linked with the manufacture of fine papers for many years and is one of the specialists in bonds and ledgers in this territory. The Curtis & Bro. Mills in Newark, Del., were placed on full time schedule last week and have been running on an

average of five days per week recently. The growing demand for the fine papers made by these mills has been effective in recent days in promoting full production schedule with a very satisfying business in the newly introduced line of Utopian cover papers which have been added the past month to correspond with the Utopian book papers which have long been a standard grace with the Curtis Bros. mills. The Utopian covers are made in white and Indian and five colors to harmonize with the colors in the Utopian book and are to be used where a high grade cover paper is required.

Paper Distributors Stock New Utopian Cover

The new Utopian cover papers which recently have been introduced to the trade by the Curtis & Bros., Inc., Mills, of Newark, Del., have wide distribution in the trade and are being carried by the following paper distributors: A Hartung, Inc., Philadelphia, Pa.; Storrs and Bement, Boston, Mass.; Beecher, Peck and Lewis, Detroit, Mich.; the General Paper and Cordage Company, Pittsburgh, Pa.; Barton Duer & Koch, Baltimore, Md.; Henry Lindenmeyer and Son, New York; the Paper Mills of Chicago, Chicago, Ill.; and the Central Ohio Paper Company, Columbus, Ohio. These distributors also stock the Utopian book papers which correspond in colors with the Utopian covers, brought out the past month. These firms are among the distributive houses which have been appointed by the Curtis Bros. mills to distribute its products within recent years following many years of direct mill distribution through its own branch warehouses and sales offices located here at 5th and Ludlow streets, which were discontinued a year or so ago when the new plans for paper sales through dealers was announced. Since then the mills have been equipped with new electrical units and modernized and production materially increased.

W. T. Pease to Represent American Tissue Mills

William T. Pease, 3754 North 18th street, has taken over the local sales territory for the American Tissue Mills of Holyoke, Mass., and will conduct the Philadelphia offices from his old address in North 18th street. He will cover the local trade with the firm's line of tissues and waxed papers in a general assortment of these products made in the Holyoke mills. Mr. Pease has long been linked with the local trade, for seven years having been associated with the Philadelphia sales offices of the Union Bag and Paper Corporation, covering the district from Pittsburgh to Washington, D. C., and for the past year has been connected with the Robertson Paper Company, Inc., as Quaker City representative of its line of waxed products.

Hooper Paper and Twine Co. to Move

Removal of the Hooper Paper and Twine Company, Inc., from its present location at 270 South American street, is under way, the firm planning to be completely settled in its new quarters at 105 Church street by July 19. The firm, one of the largest of wrapping paper, twine and flat paper dealers in the local trade featuring wholesale quantities, has acquired larger warehousing quarters and sales offices at the Church street address where a five story structure has been leased for its future home. The building has been subjected to renovations the past month with new equipment and modern facilities for handling paper in volume installed. There are extensive shipping facilities attached to the new location and these will be augmented by modern electrical equipment for handling large orders with despatch. The firm is stocking a line of bond papers along with its old established lines and has acquired the Marathon bonds made by the Marathon Paper Company and the Kendall bonds, its own trade mark. The firm also will stock gummed papers, manifold and like papers used by the stationery trade. This is the first stock of bond papers ever handled by the concern. The firm is one of the two Philadelphia distributors of the Albemarle blotters made by the Albemarle Paper Manufacturing Company and a full line of these will be carried in the new quarters. The firm will also continue its wrapping paper business on an extended scale and will stock the complete twines made by the Bibbs Manufacturing Company, of Macon, Ga., and those of the Ludlow Mills, of Boston, Mass., internationally prominent manufacturers of twines and these will be carried in volume quantities to meet the needs of distributors as well as the larger consumers. The head of the firm is George K. Hooper, who is president of the Paper and Twine Merchants Association of Philadlphia.

George W. Ward Commended

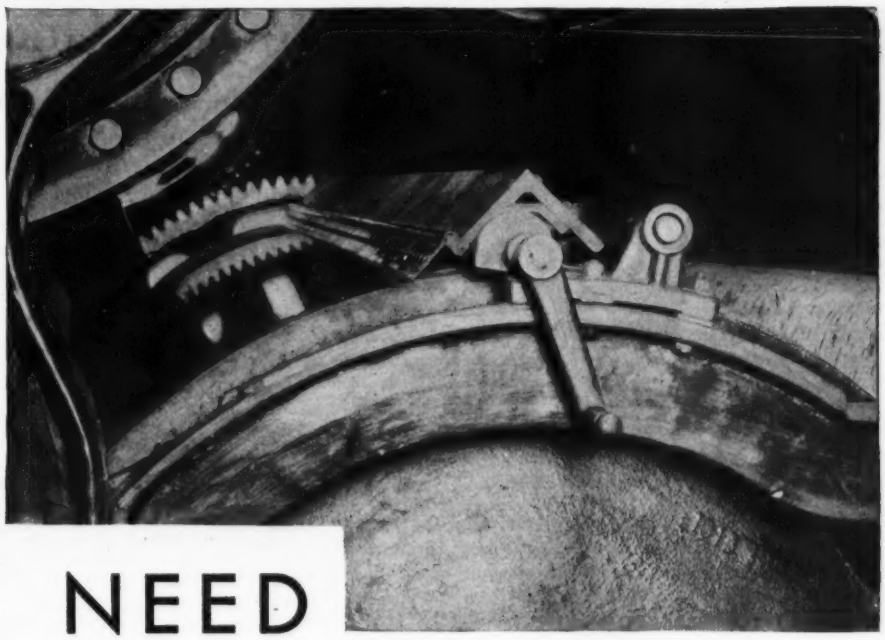
President George W. Ward, head of the D. L. Ward Company, 28 South 6th street, was honored last week by the Direct Mail Advertisers Association at the meeting of the Board of Directors held at Cincinnati, Ohio, when his work in behalf of the Direct Mail Leaders Exhibit won the praise of the directors and was extolled and endorsed by its members. Mr. Ward was especially invited to attend this meeting when a resolution of commendation and endorsement of the Direct Mail Leaders Exhibit was presented and won the unanimous approval of the Directors in the direct mail group and a copy presented to Mr. Ward. At the meeting the Directors also endorsed the work in behalf of the exhibit of the Zellerbach Paper Company, of San Francisco, whose officials have sponsored the Direct Mail Leaders Exhibitions on the Pacific Coast. Mr. Ward was appointed general chairman of the newly created educational committee of the Direct Mail Advertisers Association of which he is a member and a former associate of the board of governors.

The educational committee will in the future become the active center of the Direct Mail Leaders Exhibit and will compile and adopt the displays to be featured in the annual exhibits of the 50 best specimens of direct mail campaign pieces which have been carried by the direct mail users of the country and which will be exhibited in various sections of the country. The committee will divide the country into zones and these divisions will be represented in special exhibits of the direct mail leaders annually, the first exhibit of 1930 to be featured at the Direct Mail Advertisers Convention to be held in Milwaukee, from October 1 to 3.

This adoption of the work of conducting the annual Direct Mail Leaders Exhibits expresses the approval of the work of Mr. Ward and his successful launching of a unique method for exploiting the Graphic Arts including that of the crafts of the paper trade through exhibition every year of the best pieces of direct mail matter actually used throughout the year. This exhibit, known as the Graphic Arts Leaders Exhibit, was sponsored originally by Mr. Ward who began his campaign in the Direct Mail Leaders Exhibits five years ago organizing the Graphic Arts Division of the D. L. Ward Company, and compiling the 50 best specimens yearly and sending them broadcast over the country for display in various paper houses with the cooperation of the Zellerbach Paper Company, of San Francisco, which looked after the exhibits in the far West and Pacific Coast regions. The resolution follows:

"RESOLVED that the Direct Mail Advertising Association endorse and help enthusiastically to support the Direct Mail Leaders' Exhibit compiled by the Graphic Arts Division of the D. L. Ward Company of Philadelphia and sponsored by them and the Zellerbach Paper Company of San Francisco because of its value in creating a better understanding of what direct advertising is and can do; because of its inspirational and creative value; because the aims of this Exhibit are common with the interests of the Direct Mail Advertising Association and its objects and aims are entirely uncommercial.

THEREFORE we commend the D. L. Ward Company and the Zellerbach Paper Company as well as any and all other future sponsors, the Board of Judges, the National Exhibit Committee, and the District Chairmen for their unselfish and untiring work of the past and the future."



ALL ROLLS NEED VICKERY DOCTORING

BIRD MACHINERY

Many well-managed mills have found that it pays to give all their rolls perfect, trouble-free Vickery Doctoring. Starting with their dryers, they have equipped their breast rolls, press rolls, calenders and super-calenders—all the rolls that do better work when they are clean.

Vickery Doctors pay—on every roll. Prove it, with a trial installation at our expense.

BIRD MACHINE COMPANY

4165

South Walpole
Massachusetts

Demand for Paper Generally Good In Boston

Fine Paper Organizations Received Substantial Volume of Business During Past Month—Some Improvement Noticed In Coarse Paper Market—Southern Kraft Quotations Advanced $5 Per Ton—Box Board Trade Continues Quiet, With Prices Unchanged

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 30, 1930.—The demand for paper during June has been generally good. Some houses have received a very substantial amount of business in fine paper, considering the present industrial situation, and one dealer says it was "pretty lively in June." Prospects appear favorable for still greater activity, with extensive advertising campaigns, calling for the use of fine paper, in the offing. All in all, there seems to be a decided improvement in the fine paper situation. Some activity is reported in wrapping paper, with a number of lines being taken up fairly well. Prices for No. 2 kraft, in effect July 1, will be .03¾ for rolls and .04 for sheets, f.o.b. mill. The advance of $5 per ton for Southern kraft is a welcome development to dealers.

The box board market remains quiet, with prices steady. Some of the box factories are closing for the inventory period and also on account of the holiday, which will lessen the demand. Board mills are shut down from June 28 to July 1. There is a smaller demand for boxes because of the temporary closing of at least some of the candy factories. The box board trade, however, continues to look with confidence for better business conditions within a month or so.

Paper Stock Situation Unchanged

The paper stock situation is practically unchanged. Dullness prevails, with trading on a hand-to-mouth basis. Values are virtually the same in the entire list, except that old kraft has been marked down to 1.35 to 1.45, compared with a previous range of 1.40 to 1.50. Comment is being made in the trade in regard to the tariff on wiping rags. Under the new tariff, wiping rags have been declared dutiable at 3 cents a pound, but the complaint is made that it is not stated explicitly what constitutes a wiping rag. Heretofore, the duty was on washed, trimmed and opened-up wiping rags, but under the new tariff old rags, if large enough for wipers, would be dutiable at 3 cents a pound, even though the value of the rags is only 3 cents a pound in the United States; therefore a duty of 3 cents a pound would constitute a tax of 100 per cent, making the importation prohibitive. The opinion is expressed in the trade that the probable intent was to levy a duty on prepared wipers ready to use. The trade will be interested in the result of a meeting to be held in Chicago in regard to the wiping rag situation, at which it is expected a decision will be made in regard to action concerning the duty.

Herbert S. Brown to Retire

Herbert S. Brown, who has been connected with Carter, Rice & Co. Corp. in various selling and managerial capacities since 1900, is retiring from the firm July 1. His duties as manager of the wrapping paper department will be taken over by Harry Ellis, who has had an active selling experience of 40 years, combined with an exceptionally extensive knowledge of the intricate workings of this department.

Unique Tercentenary Souvenir

In commemoration of the Massachusetts Tercentenary, Carter, Rice & Co. Corp. is sending out miniature souvenir etchings of historical Boston, reproduced through the courtesy of Metcraft Studios of this city. Folder No. 1 contains the Old State House, the Old South Church and Faneuil Hall. The remaining three will be issued in a few weeks. The etchings are made from Ivory Wove, Plate Finish, Wayside Text. The folders are from Marine, Laid, Antique Finish, Wayside Text. They are enclosed in Strathmore envelopes, square flap, postage saver style, Marine, Laid, Antique Finish, Wayside Text.

News of the Trade

Among those present from the Carter Rice firm at the recent mill and merchants' meeting of the Strathmore Paper Company at Mittineague, Mass, were E. D. Bement, Frank Winter, A. Ashley Crowell, William J. McLellan, A. M. Smith and John F. Wilson, of the Boston office, Roger B. Vickery, of the Springfield office, and Graham Blandy, 2d, of the Worcester office.

F. Bendel Tracy, head of the Fort Hill Paper Company, and secretary of the Boston Paper Trade Association, is expected to return this week from his trip to the Pacific Coast, accompanied by Mrs. Tracy.

Donald J. MacMillan, of the Morey Paper Mill Supply Company, has gone on a business trip to Kalamazoo, Mich., expecting to return after the Fourth.

Members of the Boston Paper Trade Association are to close their offices Saturday, July 5.

Union Bag Plant to Resume

[FROM OUR REGULAR CORRESPONDENT]

CORINTH, N. Y., June 28, 1930.—Operations will be resumed in the Allen branch of the Union Bag and Paper Company on Monday morning following a curtailment of two weeks while No. 2 machine at the Fenimore mill will be shut down Sunday for about a week, according to official announcement. These new schedules indicate that the company plans to alternate between both mills in the production of paper. It was stated that the Allen branch would continue in operation for some time and a large force of employees are affected by the reopening.

Superintendent Gamble announced that the volume of orders being booked warranted the operation of only two machines in the mills here at this time. The alternating of the equipment in the Allen and Fenimore mills is a result and is expected to relieve the unemployment situation. It was also said that George Wheeler had tendered his resignation as foreman of the finishing room at the Allen branch in order to take a similar position at the Corinth mill of the International Paper Company.

Hurlbut Paper Mill to Reopen

[FROM OUR REGULAR CORRESPONDENT]

SOUTH LEE, Mass., July 1, 1930.—Frank A. Juckett, president of the Hurlbut Paper Company, announces that it is expected to reopen the factory in about three weeks with 100 hands. Progress has been satisfactory in re-conditioning the factory and it is also the plan to renovate several of the tenement houses owned by the company for its employees. Plans include the superseding of part of the steam power by electric power to supplement the water power units. Current is to be bought from the Lee Electric Company. The concern will manufacture high grade papers.

Z. W. Ranck Honored

[FROM OUR REGULAR CORRESPONDENT]

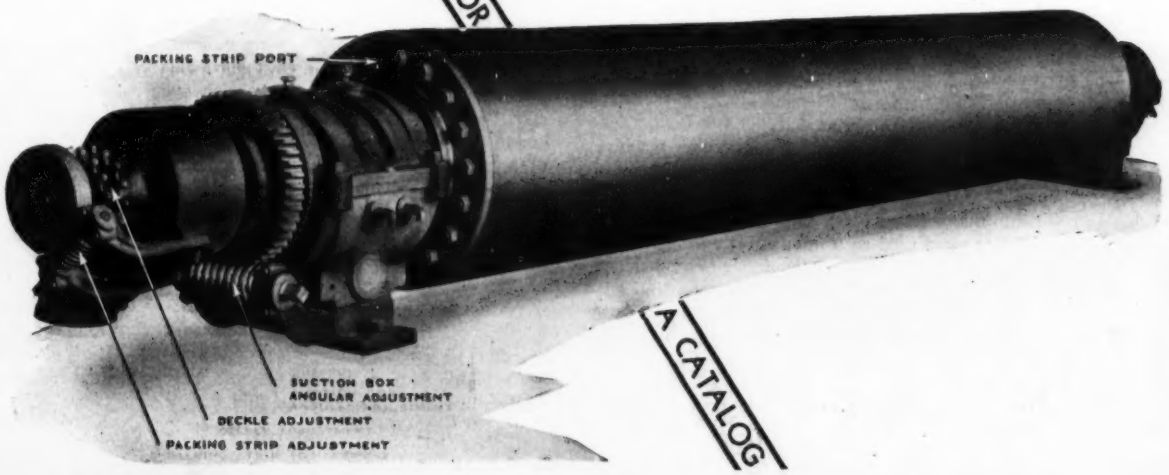
DAYTON, Ohio, June 30, 1930.—Z. W. Ranck, tissue paper manufacturer, Middletown, was elected to be a trustee of the Middletown Hospital at a meeting of the board during the past week, succeeding Wampler Denny, who recently resigned after more than seven years' service.

A paper mill effected a direct saving of $1.24 per ton of paper by the installation of a Downingtown Suction Roll. ✓ The roll was installed at Third Press and the Fourth Press Rubber Roll removed. ✓ The design and construction of the Downingtown Roll safeguards the economies derived from the suction roll operating principle. ✓ Complete 24 page catalog sent on request.

DOWNINGTOWN
KILBERRY PATENT SUCTION ROLL

WRITE YOUR NAME AND ADDRESS ON THE MARGIN OF THIS PAGE AND MAIL IT TO US FOR A CATALOG

Downingtown Mfg. Co.
Downingtown, Pa., U. S. A.



Chicago Paper Market Conditions Unchanged

Business Transacted During Month of June Will Probably Show Decrease Compared With 1929 But Will Compare Favorably With Corresponding Month of 1928—News Print Paper Moving In Satisfactory Volume—Tissues Are Seasonally Active

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., June 30, 1930.—Little change was noted in the Chicago paper market during the week just passed. June is expected to show a decrease over 1929 but will probably compare very favorably with 1928. News print, while reported short of 1929 so far this year is, in the Chicago market, considerably improved over other years in the past. The volume of news continues to hold up well with production running along slightly above 75 per cent.

The waste paper market is unchanged, with the lower grades off somewhat but the higher grades holding steady at the stronger tone they gained a few weeks ago. Tissues are seasonally good with the market steady while the fine paper market seems to be making progress as the printing business becomes more stimulated. Book is fairly strong and steady while the board market, with the exception of the price situation, is good with production being taken up in favorable fashion. Krafts are improving only very slightly, according to reports from Chicago houses. The price cutting and drastic reductions are making for a sluggish market at low levels, say representatives, with retail demand only fair.

Chicago Paper Association's Activities

The regular meeting of the Chicago Paper Association was held on Tuesday evening, June 24, at the Bismarck Hotel. The features of the meeting were a most seasonal cold supper luncheon and the announcement of the annual outing which is to be held at the Medinah Country Club some time in July. The exact dates for the big event will be announced in a very short time, according to word from D. F. Peck, president of the association. Members of the association and guests will have an opportunity to play 36 holes of golf, enjoy a luncheon and dinner in the evening, and pick up any other entertainment that may come their way during the day. According to Mr. Peck, the annual outing will be the biggest the association has staged thus far. A record crowd is expected to be on hand to attend the meeting. William Shapland of the Fred Rentz Paper Company and Jim Donahue of the Schwarz Paper Company are attending to the details, according to Mr. Peck.

Paper Making Displays Attract Attention

Arthur L. Bowen, a Chicago bank window display expert, has made quite a hit recently in displays dealing with products of paper and allied industries. Mr. Bowen received much of his material from the University of Chicago press, the United States Printing and Lithographing Company and the Hammermill Paper Company through its Chicago distributor, the Svigart Paper Company. One of the feature exhibits in the big Chicago loop bank windows was the "Making of Paper" display showing the steps from log of spruce to finished product, Hammermill Bond. The background was a large framed picture of a Fourdrinier machine, from which is made a continuous sheet of paper. Specimens of paper formed into tubes and properly labeled, served as a means of bringing color into the picture as well as displaying the product. Sample sheets of paper were used as a floor covering. The show cards were in black and white and a set of four photographs completed the story. The story of lithography has also been interestingly told by Mr. Bowen through excellent window displays. A series of progressive prints of engravings made by photo separations from an oil painting by a New York portrait painter and reproduced by offset lithography were used. Both displays attracted a great deal of attention and answered many questions relative to paper making and uses that the average layman is very anxious to hear about.

"Thorold" Brings News Print Cargo

The *Chicago Tribune's* new motor vessel, the *Thorold,* brought its first cargo of news print in to the port of Chicago on June 25. It brought a cargo of 3,363 rolls, or 2,290 tons of paper, from the *Tribune* mills at Thorold, Ontario. The news print was transferred to trucks and rushed to Tribune Tower, on Michigan avenue, and a part of it used for the next day's issue of the paper, the entire shipment to be consumed within a week. All of the news print to be used by the big Chicago daily in 1930 is to be brought to Chicago by water. The *Thorold* is especially designed to carry a cargo of paper, is 256 feet long, 43 foot beam, and the sides are built up above what would be ordinary deck level to let it carry enough rolls of paper.

Hopper Paper Co. to Build New Plant

An Illinois paper house, the Hopper Paper Company of Taylorville, has announced plans for the building of a new plant on which construction will begin almost immediately, according to reports. The plant will be 48x96 in dimensions and will be of modern construction, two stories in height. Expanding business is given as the chief reason for this new construction work.

Seaman Blue Book Out

The 1930 Seaman Blue Book, published by the Seaman Paper Company, is out. The attractive folder contains 35 different grades of paper in as many different shades of blue. Included in the list were specimens of Seaman Olde Quill D. E., Laurentian Cover, Cloth Lined Cover, Louvain Wove Antique, Victorian D. E., Tuscan Cover Antique, Franklin Inlaid Bristol, American Embossed Cover, Barrington Ledger, Kinkora D. E., Hamilton Ledger, Seafoam Bond, Valley Onion Skin, Ontario R. R. Folder, Transfer Enamel, Louvain Laid Antique, Pictorial Enamel, Display Vellum, Choice Colored E. F. and other grades of bonds, covers, etc.

Seaman Paper Co. in Expansion Move

The Seaman Paper Company has taken the first steps in a general expansion of its business, according to an announcement by George M. Seaman, president, made at the general offices of the company in Chicago. The Seaman company will extend its coverage of the tonnage paper field to include further mill representation and an increased selling and service organization, he said. According to Mr. Seaman, the move now under way, which will be further amplified during coming months, will provide a selling and service organization on mill papers of a scope national in character and in operation,

Mr. Seaman has all confidence in an early return to business normalcy. "The Seaman Company undertakes this program with full confidence in the fundamental soundness of business conditions," he said. "This move has been under advisement by this company for some time. We feel that now is the time to increase our efforts, so we will be in accord with the upward swing of business. Periods of depression often serve a good purpose in that they demand extra effort on the part of all."

As a first move in its program, the Seaman company last week sold its stock and merchandising departments in Chicago to the Whitaker Paper Company effective August 1. It is planned to dispose of the balance of its stock and merchandising departments in other localities, Mr. Seaman said.

CONTINUOUS TESTING

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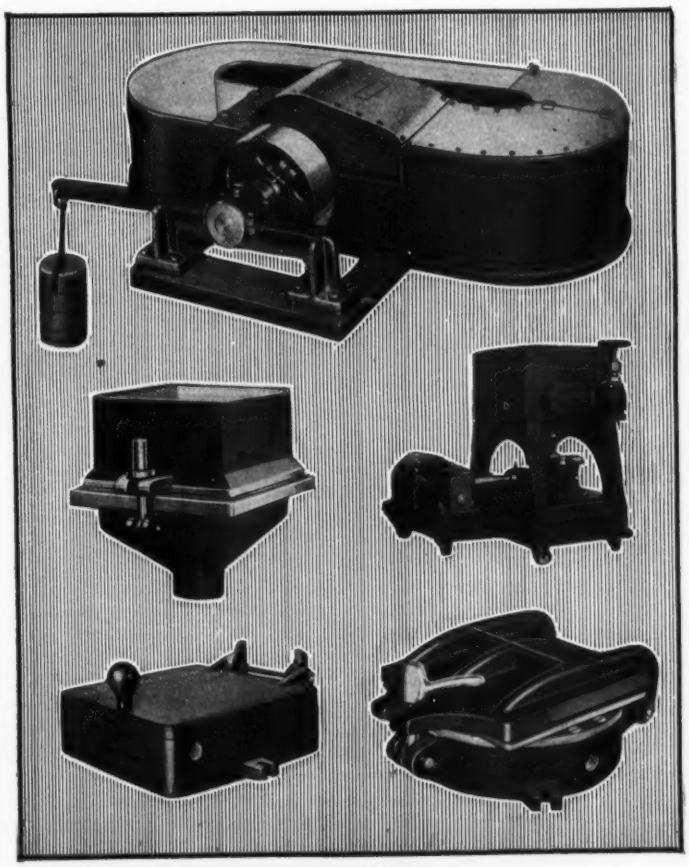
365 days a year



Beater
Sheet Mould
Hydraulic Press
Hot Plate
Size Tester

Drying Oven
Flat Screen
Couch Roll
Jordan
Rotary Steam Dryer

Not so long ago laboratory equipment was looked upon by many mills as the means for only experimental work and trial runs. This condition has changed. Laboratory equipment is recognized today by progressive mills everywhere as a vitally important cog in quality paper production. Uniform quality must be maintained throughout each day's run and assured on repeat runs.

In other words, laboratory equipment is now called upon for **continuous testing**—day-in and day-out, year-in and year-out.

In order to meet this tendency, many changes in the design and construction of laboratory equipment had to be made. And "Valley" has made them. For example, the beaters are now equipped with ball bearings on both the journals of the roll and the fulcrum arm. The bars in the roll and bed plate are made of monel metal. Other improvements and additions have been made.

If you are interested—and you certainly should be—write the Valley Iron Works Co., Appleton, Wisconsin.

VALLEY

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New York Office: 350 Madison Ave.
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Menasha Paper Mill Will Continue to Operate

William Nelson, Stockholder, and Formerly Secretary-Treasurer of Defunct Concern, Purchases Assets At Auction Sale—Plant Is Two Machine Mill Manufacturing Straw Board —Due to Unsatisfactory Market Conditions Mill Had Been Operating At Loss

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 30, 1930.—Reorganization and resumption of operations of the defunct Menasha Paper Mills Company, Menasha, Wis., will be the result of an auction sale last week at which the assets of the concern were purchased by William Nelson, of Menasha. His bid was $100 and the agreement to assume a mortgage of $50,000.

Mr. Nelson was a stockholder and had been serving as secretary-treasurer. He is also secretary of the Menasha Wooden Ware Company, Menasha. Although the plans are not definite, Mr. Nelson declares that the mill will continue to operate. It is a two machine mill making straw board.

The plant was sold by J. M. Levin, Oshkosh, Wis., and E. H. Jaynes, Cleveland, Ohio, who had been operating it as receivers for the last sixteen months. Due to market conditions it was found impossible to operate the mill except at a loss.

Ahdawagam Paper Products Expansion

Expansion of the Ahdawagam Paper Products Company will result from its purchase of the assets of the Wisconsin Carron Company, of Stevens Point, Wis., recently declared bankrupt. The purchase includes the receiver's equity in machinery, raw materials, tools, plates, dies, etc. The Ahdawagam company paid $3,900 for the property and assumed approximately $19,000 of liens against the machinery.

It is the intention of the purchasers, according to Frank Walsh, manager, to move all the equipment and furniture to their plant at Wisconsin Rapids. Only heavy paper boxes had been made up to this time, but this change will permit the addition of folding cartons and light board specialties. An addition will be built soon to the Ahdawagam plant to accommodate the enlarged line, which is to include cartons for candy and other foodstuffs, counter display boxes, cookie containers and the like.

Safety Conference Well Attended

Approximately 1,000 delegates gathered at Wisconsin Rapids last week for the second annual Wisconsin Valley Safety Conference. Most of the arrangements were made by officers of the Consolidated Water Power and Paper Company, with J. J. Plzak as general chairman.

Talks in the paper mill section were given as follows: "Hazards of the Wood Years," by John Normington, Consolidated company; "Wood Room Hazards," C. M. Green, Mosinee Paper Mills Company; "Machine Room Hazards," G. H. Suhs, Rhinelander Paper Company; "Some Safeguards in the Paper Mill," M. J. Mollen, Nekoosa-Edwards Paper Company; "Safe Methods of Supplying Steam in Paper Department," Louis Pauls, Marathon Paper Mills Company; "Electrical Hazards, Paper Department," Walter S. Drew, Marathon company; "Safety and Work," W. F. Ashe, Thilmany Pulp and Paper Company.

Welcomed by G. W. Mead

At the general session, the delegates were welcomed by George W. Mead, president of the Consolidated company. Dr. John R. Commons, economist of the University of Wisconsin, gave the first address in which he said the mental attitude of both employer and employee is the most important factor in safety. He stressed the place of employment, the conditions of employment, and the mental attitude of all concerned as the phases to consider.

Other speakers were Ernest W. Corn, field representative of the National Safety Council, Chicago, and Harry K. "Smoky" Rogers, Chicago. The former declared that accident prevention is not at all an individual problem and cannot be solved except through community co-operation. He gave valuable ideas for formulating a community safety program. Mr. Rogers devoted his entire address to fire prevention.

Floods Cause Shutdown at Escanaba

A ten day shutdown resulted at the Escanaba Paper Company, Escanaba, Mich., last week, when two dams were carried out by a flood. The mill was flooded with water and operations had to be suspended. Repairs to machinery will be made during the recess and immediate steps will be taken to rebuild the dams. Heavy storms swelled the streams to such an extent that the dam at Boney Falls gave way. The torrent of water carried down the Escanaba River carried with it the Chandler Falls dam. A steam plant was put into operation at Escanaba in the meantime to supply power for various industries.

News of the Industry

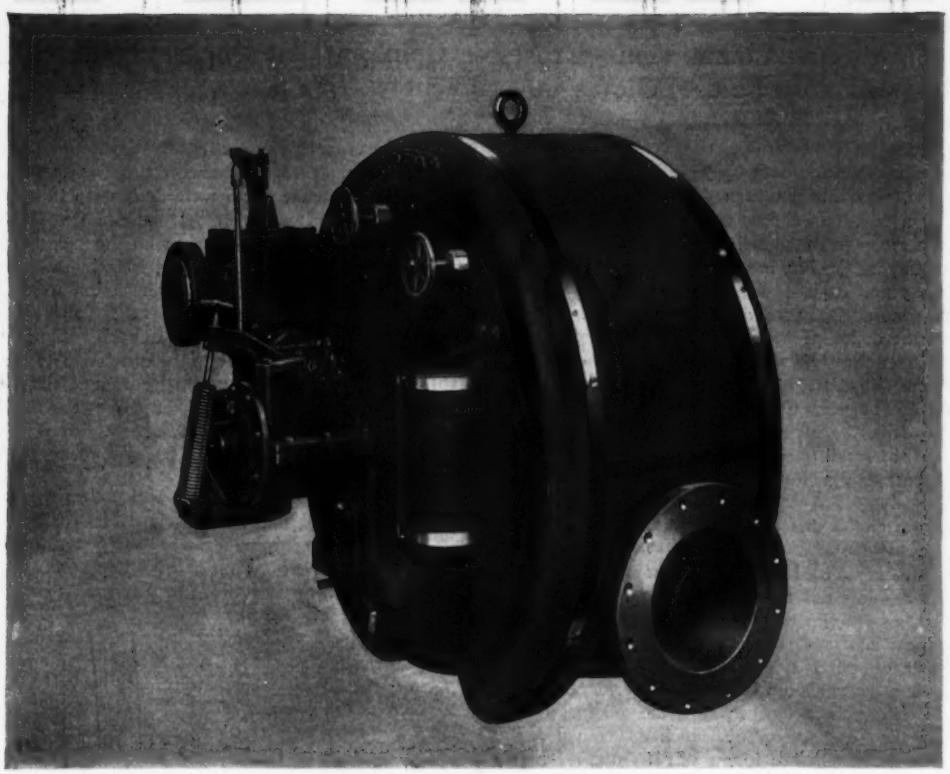
Growth and success of Neenah and Menasha, Wis., as a joint paper mill center is described in considerable detail in the June issue of the *Wisconsin Magazine*. The history of these two cities is entwined closely with the establishment and upbuilding of such paper mills as the Kimberly-Clark Corporation, the George A. Whiting Paper Company, Gilbert Paper Company, Bergstrom Paper Company, John Strange Paper Company and others. Tribute is paid to the founders of these mills, and special mention is made of George A. Whiting, for his many philanthropies. Pictures of the exterior and interior of several of the Neenah and Manasha mills are shown.

Inspection of places and institutions will occupy the summer season for the staff of the Institute of Paper Chemistry, of Lawrence College, Appleton, Wis. Dr. Otto Kress, technical director, left recently for a tour of inspection of Japanese paper mills, where he will study processes that have attracted world wide attention. Harry F. Lewis, newly appointed professor of organic chemistry, and at one time research chemist for the National Analine Chemical Company, of Buffalo, N. Y., is inspecting a number of institutions giving technical training. Hjordes Roseth, Institute librarian, will continue the cataloguing of research material.

Members of the National Editorial Association were guests of the newly established George W. Mead Paper Institute, Madison, Wis., recently while attending their national convention at Milwaukee, Wis. The institute was organized by George W. Mead, president of the Consolidated Water Power and Paper Company, to assist publishers with their problems. A dinner was held at Madison at which the work of the institute was explained. The June edition of *"Consolidated News,"* house organ of the Consolidated company, was devoted to a review of the history and accomplishments of the National Editorial Association, and pictures were printed therein of past and present officers. The Mead Institute also was explained there. Each of the guests was supplied with a copy.

Wages due employees of the Tomahawk Pulp and Paper Company, Tomahawk, Wis., were paid personally by C. B. Pride, president, in order that the workmen need not be in want. The mill was closed down several weeks ago when the company went into receivership. Receipts were taken from the men and it is probable that Mr. Pride will be reimbursed when disposition is made of the mill by the courts.

TERRY



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That this policy has been appreciated is shown by the very extensive use of Terrys where only the most trustworthy apparatus is permissible: namely in the large central stations and on board vessels of the U. S. Navy.

75%, in fact, of the leading central station systems of the country employ Terry Turbines. Hundreds of Naval vessels depend on Terrys for driving the essential auxiliaries.

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Public Forest Ownership Forecast in Ontario

Well Known Pulp and Lumber Operator Anticipates Forest Administration Under Body Similar to Hydro-Electric Commission—Expresses Opinion That Quebec Would Be Compelled to Follow Suit—Believes Government Will Step In to Save Industry

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., June 30, 1930.—Public ownership of Ontario's forests, under the administration of a body similar to the Hydro-Electric Commission, was forecast as a development within the next few years by a well-known pulp and lumber dealer in the Timmins. And the example of Ontario in this regard would be followed without delay by Quebec, in the opinion of this operator, who has had thirty years' experience in the pulpwood and forest products business generally. Force of circumstances will bring about a change in the policy of handling the forest resources of Ontario, this pulp operator thinks. He contends that conditions in the pulp and lumber industries have not been very good in the last few years and it is his view that the Government will be compelled to step in to save the industry. He states that conditions have been such that the small operators have not made more than a bare living, and that many men have been forced out of business in recent years.

Another point stressed by this man was that, whereas it was formerly believed that private ownership was more efficient than public ownership, the example of the Hydro Commission had dispelled the idea. He points out that the Hydro has shown what can be done under proper supervision and if there is no interference from political quarters. He says that, since the forests belong to the people of Ontario, and not to the men who lease the limits, the public welfare should be the first consideration.

Dealing with the situation in Quebec, it is the opinion of this man that, although the Taschereau Government is against public ownership, it would be compelled to follow suit if Ontario handled its forests through a commission. The situation in the pulp industry has reached a point where there are virtually only two big corporations to deal with—Abitibi in Ontario and International in Quebec—and he thinks that the drift of the times in this phase of the country's life is distinctly towards the administration of the forest products on the basis of public ownership.

Forest Protectors Make Record

Provincial Air Force records made available this week by Captain W. Roy Maxwell, director of the service, reveal that up to and including the week ending June 15, the force had flown 1,171 hours and 50 minutes more on suppression and detection patrol than during the corresponding period of 1919. This great record, Captain Maxwell pointed out, was set with five machines fewer than were operating a year ago. Outstanding patrolling was done by Pilot A. C. Heaven, of the Twin Lakes Station. During the week of June 7 a companion pilot, George Delehaye, flew 61 hours and 15 minutes, to break by 55 minutes the week's flying record set in 1919. Delehaye's record was established with a Moth plane patrolling on seven consecutive days, but along came Heaven the following week, to equal it with an H. S. 2-L flying boat, and in six consecutive days' flying. Captain Maxwell also furnished an illustration this week of the extent to which the machines of the service are engaged in the present anti-bush fire battle. From June 5 to June 18, he stated, the D. H. 61, a large suppression machine, made 67 flights, carrying in to fires no less than 167 men and 18½ tons of fire-fighting equipment and provisions. This "grind" was in the Port Arthur district.

Pulpwood Fire Hazard Still High

According to the Hon. William Finlayson, Ontario Minister of Lands and Forests, latest advices on the general fire situation in Northern Ontario, particularly in the Sioux Lookout and Kenora districts is still of a medium nature, but that the hazard in the Port Arthur region is "still high," with weather hot, dry and windy. The Mack Township fire is still giving a lot of trouble and is now from two to six miles wide and eighty miles in length. Between 300 and 400 men are engaged in fighting it. A whole batch of areas in the north were designated this week as "travel" areas, and until October 15 no one can invade them without a permit. All of Algonquin Park, with the exceptions of the township of Peck and that of Canisby, is included in this new lot of restricted districts. Further drastic action to deal with alleged incendiary bush fires was taken by the Ontario Government this week when it passed an Order-in-Council authorizing a reward of $100 for information leading to the conviction of person or persons setting out fire contrary to the provisions of the Forest Fires Prevention Act. This is aimed directly at the Head of the Lakes district where a number of fires bore suspicious origin.

Notes and Jottings of the Trade

L. R. Wilson, vice-president and managing director of the Abitibi Power and Paper Company, Ltd., was at Iroquois Falls a few days ago attending a special meeting of the company's shareholders. He also visited the Smooth Rock Falls plant of the company, subsequently proceeding to Montreal to attend the funeral of the late P. B. Wilson.

Richard H. Joyce, formerly sales manager of Stauntons, Ltd., wall paper manufacturers, Toronto, has been appointed vice-president of the Don Valley Paper Company, Toronto, of which Norman E. Wainwright is the president, and is now actively engaged in the business of the Don Valley company.

H. J. Buncke, of the Toronto offices of the Abitibi Power and Paper Company, has returned to Toronto after a ten-day trip to Port Arthur.

David F. Robertson, formerly general manager of the Canadian Paperboard Company, Toronto, has retired from that position which he has held for some years, including the several months the company has been in the hands of a receiver. He has been succeeded by S. R. Armstrong, from New York State, widely known in paper manufacturing circles in Canada and the United States.

J. Stanley Scott, of Fredericton, N. B., prominent pulpwood dealer and buyer in New Brunswick pulpwood for the Maine Seaboard Paper Company, which is erecting a new pulp and paper plant at Bucksport, was recently elected vice-president of the Automobile and Boating Club, of Fredericton.

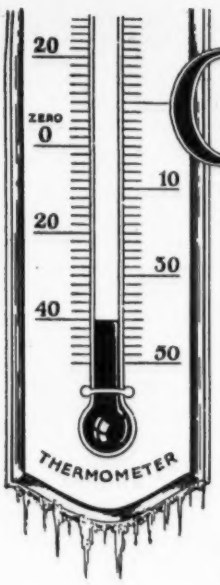
British makers of wall board have asked the British Board of Trade if that product should not bear an indication of its origin, in as much as now it is not possible to identify British made wall board in the market. Both Canada and the United States export a large tonnage of the product to the British market and it is unmarked as to origin.

Recent visitors to a section of the wholesale paper trade in Toronto were W. H. Quinn, of the Public Press, Ltd., Winnipeg, and E. C. Stovel, of Stovel & Co., of the same city.

A number of the members of the wholesale paper trade in Toronto attended the summer social night of the Toronto Club of Printing House Craftsmen staged at the Parkdale Canoe Club on June 24.

The Port Hardy Pulp and Paper Company, Ltd., capitalized at $1,000,000, has been incorporated. The company is to have its head office in Vancouver and it is understood that interests in the coast city will furnish most of the capital for the enterprise.

The directors of the Interlake Tissue Mills, Ltd., head office Toronto, and mill at Thorold, Ont., met in Toronto a few days ago and passed the usual quarterly dividend.



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News Print Paper Report Sent to U. S. Senate

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 2, 1930.—Future activities of the Newsprint Institute of Canada in relation to the sale of news print paper and the fixing of market prices in the United States should be watched closely, the Federal Trade Commission declares in its report on the news print paper situation sent to the Senate today as a result of an investigation called for by Senate Resolution. The Commission advises Congress that close tab should be kept on the Canadian combination "with a view to remedial action if any agency is found to exist, or is created within the United States for the enforcement of such activities as may be contrary to the anti-trust laws of the United States." But no such agency is known to exist at present, the Commission finds. If such an organization as the Newsprint Institute of Canada were operating in the United States, it would be in violation of the anti-trust laws, including the anti-trust provisions of the Wilson Tariff Act, the Commission believes.

The Newsprint Institute of Canada was organized by the leading newsprint manufacturers of Canada at the instance of the Prime Ministers of Quebec and Ontario following the announcement of a contract made in October, 1928, between the International Paper Company and the Hearst newspapers, both of the United States, for a large quantity of paper at prices substantially lower than those previously prevailing. Answering the terms of the Senate resolution the Commission reports that no company selling news print paper in the eastern part of the United States has a sufficient proportion of the business to constitute a monopoly. But the Commission makes known that "the possible monopoly or tendency toward monopoly" of the Crown Zellerbach Corporation in Pacific coast states and that corporation's acquisition of the capital stock of the Crown Willamette Paper Company while in control of the Washington Pulp and Paper Company, are "subject matters of a case now being further investigated by the Commission." Details of this case are not now available.

No evidence was found of unlawful discriminations against publishers of small daily and weekly newspapers by domestic manufacturers and distributors of news print paper or of practices on the part of the latter that constitute violations of the anti-trust laws. The Senate resolution calling for this investigation asked for information as to whether the practices of manufacturers and distributors of news print paper tend to create a monopoly in the supplying of news print paper to publishers of small daily and weekly newspapers and whether such practices constitute violation of the anti-trust laws. The Commission recommends "That publishers of small daily and weekly newspapers, wherever possible, 'set up machinery' for purchasing their requirements of news print on a co-operative basis in order to get the benefit of the manufacturers' contract prices for paper in shipments of carload lots.

Regarding the conservation of raw material, the Commission recommends: "That the United States Government, through the appropriate departments, continue its experiments with the manufacture of paper from farm waste products. That the Government-owned timber lands and water power sites in Alaska be made available to domestic-owned companies on liberal terms for development of the paper industry in Alaska, having in mind, of course, the conserving and perpetuating of these natural resources."

Although the International Paper Company sells only about twenty per cent of the news print paper consumed in the United States, other domestic manufacturers generally follow its lead in making news print prices, the Commission found. The Commission notes that contracts were entered into February 26, 1929 between (1) the International Paper Company and the Newspaper and Magazine Corporation, the purchasing organization for the Hearst newspapers, and between (2) the Hearst organization and each of the two Canadian companies, namely, The Anglo-Canadian Pulp and Paper Mills, Ltd., and the Brompton Pulp and Paper Company, Ltd. These contracts resulted from agreements and understandings reached at various conferences between Hearst representatives, the International Paper Company, Prime Minister L. A. Taschereau of Quebec, and Prime Minister G. Howard Ferguson of Ontario, the prime ministers acting on behalf of the news print paper manufacturers of their respective provinces.

Fixing and establishing the contract price of news print were found to be the "purpose and effect" of these agreements, and declares the Commission: "The International Paper Company was induced to agree to an increase in price of news print paper to the Hearst papers by threats of disciplinary action on the part of the Prime Ministers." The International Paper Company is the only manufacturer of news print paper which aided publishers to any extent in financing newspaper publications. Evidence gathered tends to show that financial assistance was given in consideration of securing long term contracts to supply the publishers so financed with news print paper by the International Paper Company. The International has now disposed of its stock and securities in most of the publishing companies in which investments were made. It still has holdings in a liquidating company formed in connection with reorganization of the *Chicago Journal* and in the so-called "Hall and Lavarre" group in the South. The Gilman Paper Company had holdings in the company publishing the *Philadelphia Record* while the St. Regis Paper Company held stock in the concern publishing the *Watertown* (N. Y.) *Standard*.

Recent news print price making as covered by the Commission's report is summarized briefly as follows: The price of news print paper which had been increasing since 1917, reached its peak in January, 1921, when the f.o.b. mill contract price was $130 a ton. Production had been stimulated and prices now declined because of overproduction. The mill price in January, 1922, was $70 a ton, but by June 1924 had gone up to $75. Since then there have been six reductions with the figure $62 a ton (with allowances for freight charges in excess of certain rates) prevailing in 1929. The October 1928 contract of International Paper and the Hearst organization provided for f.o.b. mill prices with full freight allowed the purchaser to destination. This contract would have established prices from $7 to $10 a ton lower than those previously announced.

Since the International's policy is to offer the same price to all carload buyers, the low prices to Hearst threatened to become the prevailing standard, but the negotiations with the Canadian concerns and the prime ministers resulted in an agreement whereby the contract prices of news print was increased about $5.00 a ton. A new contract executed February 26, 1929 between International Paper Company and Hearst embodied revised prices ranging from $61.30 f.o.b. mill, freight allowed (to Boston and New York state points), to $67.70 f.o.b. mill, freight allowed to (San Antonio, Texas). Hearst renewed contracts with two large Canadian corporations carrying the same prices fixed in the International contract.

The International Company worked out a system of zoning and made a price applicable to publishers in each zone which reflected the prices stated in the Hearst contract. These contracts were for a period of five years. Other companies met the price reduction of the International company which prevails today although a determined effort was made by the Canadian officials to have the price raised for 1930. A decision was reached to the effect that the price would not be changed before July 1, 1930.

(*Continued on page 72*)

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Plainwell, Mich.—The Michigan Paper Company is carrying out an expansion and improvement program at its mill for increased capacity and greater efficiency in operation, estimated to cost close to $350,000, with equipment. The mill is being electrified in different departments, and in connection with that end of work, company has begun construction of new power house, 50 x 108 feet, and 70 feet high, with equipment installation to include three 600-horsepower boilers, two of which will be installed at once, and the third at a later date. Contract for station has been let to the D. F. Miller Company, Kalamazoo, Mich. Further progress will be made on the electrification program as soon as the power station is ready for service. C. F. Hershfield is company engineer, in charge of construction.

Philadelphia, Pa.—Becker, Smith & Page, Inc., Water street and Snyder avenue manufacturer of wall papers, etc., is asking bids in general contract until July 8, for proposed new addition to mill, consisting of a two and four-story building, to cost close to $100,000, with equipment. List of machinery to be installed has been arranged. The Ballinger Company, Twelfth and Chestnut streets, Philadelphia, is architect and engineer.

Wabash, Ind.—Following the closing of its local mill the latter part of April, the United Paperboard Company has been carrying out an improvement and betterment program, including installation of new equipment and repairs to present machinery. Operations have been resumed at the plant, effective June 19, and it is expected to continue on an active production schedule for an indefinite period. About 200 employes have been given work, and it is proposed to add about 50 operatives to this quota at an early date.

Middletown, Ohio—The Raymond Paper Bag Company, Middletown, is said to be planning a new local mill for manufacture of a line of paper bags and containers, consisting of multi-story unit, to cost over $200,000 with equipment. It is understood that an architect will be selected to prepare detailed plans at an early date.

Minneapolis, Minn.—Fire June 22, caused damage at the plant of the B. F. Nelson Paper Company, 401 Main street, N. E., used for storage and distributing service. An official estimate of loss has not been announced but is stated as being slight.

Kimberly, Wis.—The new mill addition being built by the Kimberly-Clark Corporation is proceeding rapidly, and the unit is now about one-third completed. It will be used for production as soon as it is ready. The structure will be one-story, 54 x 70 ft., equipped as an addition to the beater department. As previously reported in these columns, the C. R. Meyer & Sons Company, 50 State street, Oshkosh, Wis., is general contractor.

New York, N. Y.—Green Brothers, 211 Wooster street, manufacturers of paper boxes and containers, have leased a floor in the building at 127 Bleecker street, and will use for expansion.

Watervliet, Mich.—The Watervliet Paper Company, Watervliet, has completed plans for a new one-story addition to its mill, to be used for storage and distributing service. General contract has been awarded to the Max Stock Company, Benton Harbor, Mich., and work will be placed under way at once. The unit will cost about $20,000.

Longview, Wash.—In connection with its general expansion program to cost about $1,500,000, the Northwest Paper Company Cloquet, Minn., has tentative plans under advisement for a new conversion mill at Longview, where site is said to have been selected near the mill of the Weyerhaeuser Timber Company, fronting on the Columbia River. estimated cost of the project has not been announced. It is understood that plans will be prepared by the Jacobson Engineering Company, Plymouth Building, Minneapolis, Minn., engineer. H. S. Hornby is president of the company.

San Francisco, Cal.—The Crown-Zellerbach Corporation, 343 Sansome street, and George T. Cameron, head of the "San Francisco Chronicle," Fifth and Mission streets, both San Francisco, with the Chandler interests of the "Los Angeles Times," Los Angeles, have made application to the Federal Power Commission, Washington, D. C., for permission to proceed with a hydroelectric power project in the vicinity of Juneau, Alaska. The initial work will include the using of waters from Long, Dorothy and Crater Lakes, in the vicinity noted, with construction of power dam and reservoirs to provide a water head for a station of about 81,000 hp. capacity. The majority of the output will be used for a projected pulp and paper mill operation on the Gatineau Channel, for the manufacture of news print. The power project is estimated to cost about $4,000,000. The companies are also seeking rights to extensive timber properties in this section, estimated to cover about ten billion feet of standing timber, and which will be used for raw material supply for new mill. The new mill is estimated to cost close to $10,000,000 and plans for this feature of the development will be arranged after Government permission has been secured.

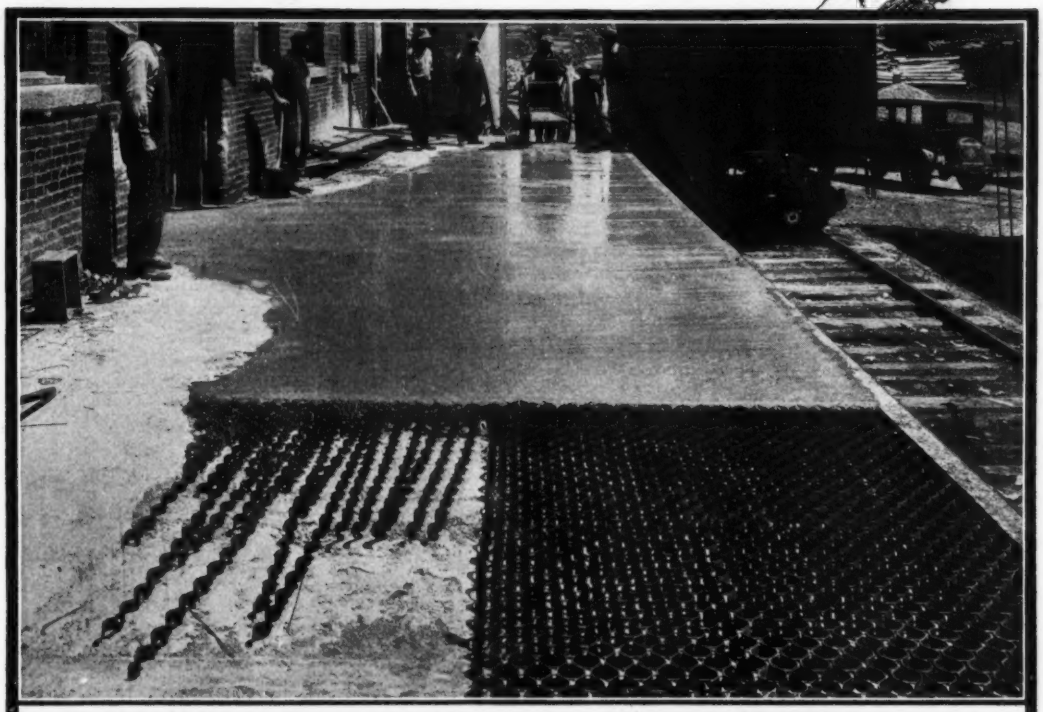
Milwaukee, Wis.—The Badger Carton Company, 387 Ninth street, manufacturer of folding paper boxes and other paper containers, has concluded negotiations for the purchase of the plant unit of the Hamilton Aero Manufacturing Company, Bremen street and Concordia avenue, consisting of a main one-story building, 137 x 475 feet. The Badger company will make alterations and improvements to accommodate its line of production and will equip the structure for a new plant unit, for considerable increase in present output. A reported consideration of $150,000, was given for the property.

New York, N. Y.—The Pioneer Paper Company, 57 Norfolk street, has leased ground floor and basement of the building at 9 Great Jones street, and will occupy for expansion.

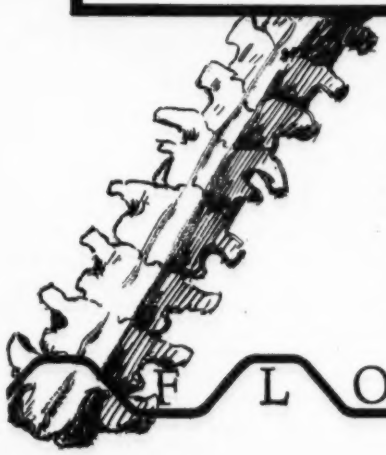
St. John, N. B.—The St. John River Power company, a subsidiary of the International Paper Company, 100 East Forty-second street, New York, is arranging for the installation of a new generator unit at its hydroelectric power plant on the St. John River, at Grand Falls, N. B., making the fourth machine to be installed at that station, all of like capacity, 20,000 hp. The new unit will be used primarily for service for second paper-making machine at the Dalhousie mill of the parent organization, and which plant was opened early this year.

BACKBONE!

What it means to a FLOOR



Platform reinforced with Floorgard and concrete presents a surface that will be permanent throughout years of service. The steel takes the wear.



ARE your factory floors and platforms as modern as the rest of your factory, or are they full of cracks, potholes, saucers and ruts that slow up floor traffic? You can turn bad floors into good ones, permanently smooth and immune to wear, with Floorgard—a steel backbone installed flush with the concrete or composition surface to take the shocks and grind—the wear and tear. Floorgard maintains the surface true and smooth—makes fast floors out of slow floors. Floorgard is easily and quickly installed. Ask for complete information without obligation—just mail the coupon.

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Obituary

William Forsyth

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, June 30, 1930.—William Forsyth, 68 years old, for a number of years connected with the Gummed Products Company, Troy, Ohio, died in that city last Sunday at the home of Mrs. Elizabeth Franks on North Crawford street. Death was attributed to shock following a recent amputation of his leg which he injured when at work.

Mr. Forsyth was a native of Boston, Mass., and the body was sent to that city for burial by the Irvin Funeral establishment, which had charge of the funeral rites. He is survived by two sons, James and Albert, both of whom reside in the East.

Mrs. Mary Crume

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, June 30, 1930.—Funeral services for Mrs. Mary Crume, 80 years old, who died last Sunday at her home, 155 Salem avenue, this city, were conducted Thursday morning at 10 o'clock. Mrs. Crume was the widow of the late William E. Crume, for many years at the head of the Crume & Sefton Manufacturing Company, makers of cartons, boxes, etc., and which later was taken over by the Kinnard Company. Funeral services were conducted by Stanley Holcomb, acting pastor of the First Baptist Church, of which Mrs. Crume had been a lifelong member. She is survived by two sons, William H. and Roscoe Crume; and three daughters, Mrs. John B. Lytle, Mrs. Harrie P. Clegg and Mrs. John M. Huffman, all of whom are prominently connected.

Frederick C. Atkins

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 1, 1930.—Word has been received here of the death at Middletown, Conn., of Frederick Cunningham Atkins, 81, formerly president of the Taylor-Atkins Company, of Burnside, Conn. He was born in Conway and with Charles F. Taylor of Holyoke formed the Taylor Atkins Paper Company in 1897. Upon the death of Mr. Taylor he took over the Taylor interests in the company and served many years, first as president and then as treasurer. He left a wife and three daughters. Burial was in West Hartford, Conn.

Maurice M. Elish

Maurice M. Elish, head of M. M. Elish & Co., Inc., general paper merchants, of 29 Beekman stret, New York, died Sunday, June 22, after a brief illness at his home, 376 East Eighteenth street, Brooklyn, N. Y. The funeral was held from the Flatbush Memorial Chapel, 1283 Coney Island avenue, Brooklyn. Mr. Elish is survived by a widow, two sons and two daughters.

Louis Wellhouse

ATLANTA, Ga., June 26, 1930.—Louis Wellhouse, president of the United Paper Company and vice president of the Atlanta Box Factory died June 20 at a private sanitarium. He had been ill for three weeks. He was one of the city's leading business men.

Charles W. Barlow

CORNWALL, N. Y., June 26, 1930.—Charles W. Barlow, 87 years old, a retired paper manufacturer, died June 19 of pneumonia at his home in Salisbury Mills, near here. He was born in Orange County. He had been engaged in the paper industry for nearly fifty years. Funeral services were held at his home; burial was in Bethlehem Cemetery.

Benjamin O. Townsend

[FROM OUR REGULAR CORRESPONDENT]

HOOSICK FALLS, N. Y., June 28, 1930.—Benjamin O. Townsend, plant superintendent of the Wood Flong Paper Corporation, died this week at his home here following a brief illness. Although not feeling in the best of health for some time he continued at his duties until a few days ago. He was 49 years old.

He was born in Lumberton, N. C., in 1861 where for a number of years he was engaged in the cotton and farming industry. He has made his home here since the Wood Flong Co. moved from Stillwater about two years ago. The survivors include his wife, two brothers and a sister.

Injured Mill Workers Granted Awards

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., June 28, 1930.—At a hearing this week presided over by Referee Richardson in compensation court a number of injured mill workers were granted awards. Fred White, an employee of the Dexter Sulphite, Pulp and Paper Company, received $224 for injuries received while employed as a wrenchman. An award of $118 was conceded to Leonard Morehouse for injuries received while employed by the Dexter concern. His injuries were said to have been brought about while lifting large rolls of paper and he was advised to seek other work. The widow of Joseph Gravelle, until his death an employee of the Bagley & Sewall Company, was awarded $167.70 for injuries he received while at work during January. The case of Fred Drape was ordered closed and he was awarded about $39 for injuries received while working for the Bagley & Sewall Company.

Ralph B. White Leaves Hinsdale Paper Co.

HINSDALE, N. H., July 2. 1930.—Ralph B. White has sent out the following notice, announcing his retirement from the White-Washburne Company and the Hinsdale Paper Manufacturing Company:

"It is with much regret that I am sending this card to you announcing the severance of my connection with the White-Washburne Company and the Hinsdale Paper Manufacturing Company, both of Hinsdale, N. H. During my years of service as President of both companies, I have enjoyed and appreciated the privilege of doing business with you, and I shall greatly miss the pleasant associations which have existed between us.

"I wish to take this opportunity of thanking you for your cooperation and assistance in helping to build up the companies to their present enviable position in the trade."

Kaydeross Railway Sold

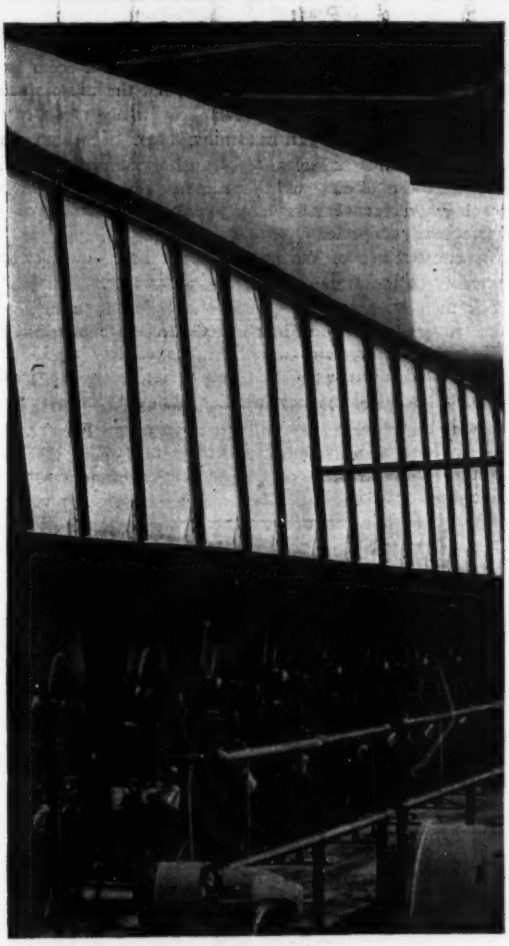
[FROM OUR REGULAR CORRESPONDENT]

BALLSTON SPA, N. Y., June 28, 1930.—With the sale this week of the Kaydeross Railroad to M. F. French, of New York, there appears slight prospects of the paper mills along the line resuming operations. Just a year ago the railroad company suspended activities because it did not feel justified in making repairs ordered by the Public Service Commission.

Negotiations were under way for the sale of the property to the Cottrel Paper Company but the deal fell through and the mill closed down. The Kaydeross Paper Company also depended on the line for transportation and waged a stiff battle to keep it in operation. The Interstate Commerce Commission recently granted an order to discontinue the line. The sale includes all personal property but does not include the real estate.

Longview Fibre Co. Makes Trial Run

Longview, Wash., June 27, 1920.—The Longview Fiber company, made a trial run the last week in June to test the big new pasting and cutting machine which will produce the new long-fiber box board in the new unit just completed at their large plant. The board proves especially tough yet as pliable as leather.



It's a pleasure to work in a back aisle like this

Trim and business-like as the deck of a cruiser is the back aisle of a Bagley & Sewall dryer section. No clutter, no cumbersome gears, no hazards,—and the easiest possible accessibility in emergencies.

And the entire assembly carries through the same note of modern efficiency. Dryer gears are remarkably compact, precisely cut and matched, encased in trim covers that keep broke out of the teeth.

Dryer rolls are finished to micrometer exactness, trued to perfect running balance and completely finished, inside as well as out. Timken bearings cut down power consumption, torque and drag. Bagley & Sewall spiral bevel gear drives keep the ensemble humming merrily, under time and temper saving control.

Machine men snap into their jobs with spirit on machines that look and perform like these Bagley & Sewall units. And the paper that rolls up on the reels brings pleasure and profit into the front office as well.

We'd like to tell you the whole story —write us

The Bagley & Sewall Co.

Watertown, N. Y.

41

New York Trade Jottings

John D. Rue, engineer of the News Print Service Bureau, New York, is visiting the Lake States news print mills.

* * *

The New York Stock Exchange has admitted to listing 3,120 additional shares of common stock of the Scott Paper Company, without nominal or par value.

* * *

Miss Claire Berger, daughter of J. M. Berger, of the Forbes Paper Company, 362 West Broadway, New York, was engaged to Dr. Maurice B. Bangel, formerly of Portsmouth, Va., on Sunday, June 29.

* * *

The Corn Products Refining Company, makers of paper making starch, etc., has declared an extra dividend of 50 cents and regular quarterly of 75 cents on common, both payable July 21 to stock of record July 7 and regular quarterly of $1.75 on preferred, payable July 15 to stock of record July 7. Similar extra on common was declared a year ago.

* * *

It is announced that a special meeting of the creditors of Salmon Bros. & Co., Inc., paper mill supply dealers, of 200 Fifth Avenue, New York, is to be held at the offices of Referee Robert P. Stephenson, 32 Broadway, New York, at 10.30 a.m. July 3, for the purpose of considering whether the trustee shall be authorized to accept the offer of creditors to compromise their claims.

* * *

At a dinner meeting of the New York Association of Dealers in Paper Makers' Supplies, Inc., held at the La Capanna Restaurant, New York, it was decided to arrange an outing sometime in September. The proposed program of presenting the appeal of paper stock trade interests to the Interstate Commerce Commission for a reduction in waste paper freight rates on shipments from the East to the Middle West was brought up for discussion, and the various angles of the matter were considered at length. Traffic Chairman Walter H. Martens informed those present that New England shippers of waste paper had assured the association of their moral and financial support to any efforts the association may make to have freight rates reduced.

Ausable Forks Railroad Facilities

AUSABLE FORKS, N. Y., June 28, 1930.—Representatives of the J. & J. Rogers Pulp and Paper Company appeared this week before the Public Service Commission to demand that the D. & H. Railroad renew its train service on the branch to this place. I. H. Chahoon, president of the paper concern, testified as did also a number of other witnesses. The case has aroused considerable interest and the outcome is being awaited with keen interest. It was learned that facilities to Ausable Forks from the main line are inadequate since the railroad stopped its service. An adjournment was taken until July 21 when a hearing will be held at Albany.

Compensation Awards Announced

GLENS FALLS, N. Y., June 16, 1930.—An award of $469.15 was this week granted Timothy Mulcahy at a compensation court hearing for injuries received while employed in the plant of Finch, Pruyn & Co. Other awards included $35.91 to Arthur Leguy, an employee of Finch, Pruyn & Co.; Frank Lee, Sandy Hill Iron and Brass Works, $72.16; T. F. Taylor, Union Bag and Paper Corporation, $58.05; Edward Borden, Union Bag and Paper Corporation, $100; Ernest Combs, Schroon River Pulp and Paper Company, $42.39; John Vannier, of the Imperial Color Works, $18.81. Among the largest awards granted at the session was one of $1,241.99 to John Hess for injuries received while working for the International Paper Company.

Indianapolis Paper Market Conditions

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., June 30, 1930.—There does not seem to be so much change in the paper business here, but the unsatisfactory part of the trade is that it does not show many signs of rejuvenation. Some of the Indiana mills, most of whom do a corrugated and carton business report some indications of improvement with the closing of the summer, but the volume is none too big, but at that is hardly as bad as some of the dealers here really expected.

There is one feature of the paper market here, however, that shows extreme dullness and that is the paper stock field. Local paper stock men have cut the prices on buying to a negligible figure, fine papers being quoted at about 50 cents a hundred and news print at 20 cents, with mixed papers as low as 15 cents a hundred. And even with this low price they are getting more stock on hand than they want. All of them have their warehouses full.

Demand in bags and wrapping papers is not at all good, but the market shows a firmer trend. The same might be said also of the fine stock market.

New Operating Schedule at Fort Edward

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., June 28, 1930.—New operating schedules were this week placed in effect at the plant of the International Paper Company and the production section will run four days a week until further notice. The remainder of the mill will observe the same schedules as heretofore. The order announcing the change was received early this week and is understood to have been brought about through a slackening in orders. The stock rooms in this village are already filled to capacity with finished goods and the order to curtail operations has been expected for some time.

The mill here has been operated at full capacity since it was converted from a news print to a bond mill in 1928 and the revision in schedules is the first yet experienced by the several hundred workers. A number of the employees are said to look with favor on the new schedules in view of the approaching warm summer months. The mill is considered one of the best of the International group and as soon as the finished stock on hand is exhausted it is understood that it will return to full time operations.

Wood Pulp Carriers Dock At Albany

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., June 28, 1930.—Several ocean merchant vessels carrying cargoes of wood pulp for paper mills in this section docked at the port terminal this week. The *Salonika* was the first to arrive and was followed later by the *Liftland,* both carrying consignments from Nova Scotia for the International Paper Company. To provide for the double unloading it was deemed advisable by the Albany Port Commission to construct about 250 feet of additional trackage and there is now space available for the loading simultaneously of nineteen freight cars. The unloading of the vessels required the employment of more than 100 stevedores. During the week the *Thyra* also landed here with about 1,000 tons of pulp for the A. P. W. Paper Company.

National Paper Products Expansion

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., June 30, 1920.—Officials of the National Paper Products Sales Company, a Nevada corporation, have filed papers with the secretary of state qualifying the company to transact business in Indiana. Jacob S. White, Merchants Bank Building, Indianapolis, is made agent for service of process. The corporation has sixteen shares of its capital stock represented in Indiana and will do a general paper warehousing business.

and Now!

PANAMA CITY

BASTROP, Louisiana: Dilts New Type Beaters making Kraft in the International's big four machine 280 ton mill.

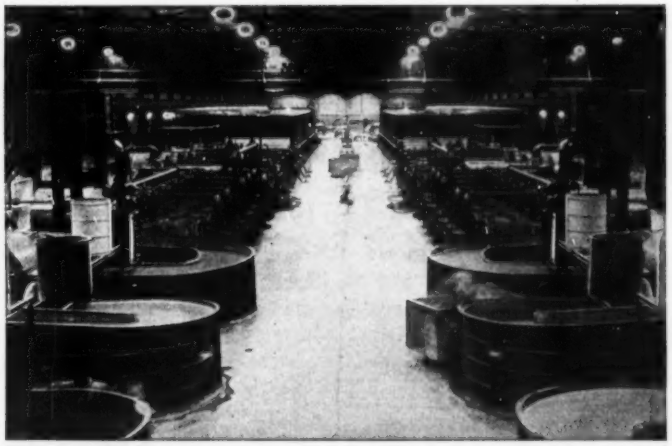
HODGE, Louisiana: Dilts New Type Beaters making the Southern Advance Bag Company's kraft paper for their 242″ machine—the widest sheet of Kraft in the world.

BOGALUSA, Louisiana: Dilts New Type Beaters in the Bogalusa Paper Company's big 225 ton mill and model laboratories.

CAMDEN, Arkansas: Dilts New Type Beaters handling the stock for the International's two machines, each 212″ wide.

TUSCALOOSA, Alabama: Dilts New Type Beaters in the Gulf States Paper Company's new kraft bag paper mill back of their big 234″ machine.

MOBILE, Alabama: Dilts New Type Beaters equipping the International kraft mill, 3 big 212″ machines.



Dilts New Type Beaters in Camden Mill

IN the 1930 mill of the Southern Kraft Corporation of Panama City, Florida—Dilts New Type Beaters will be installed to serve their two big 236″ fast running machines.

This is an impressive record of the remarkable progress and development of the paper industry in our Southern States.

—Dilts—

MACHINE WORKS Inc. FULTON, N.Y.

"Your Paper Is Made In Your Beaters"

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Thomas J. Burke, C. A.
Editor Cost Section

Reginald Trautschold, M. E.,
Power Engineering Consultant

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FOREIGN PAPER TRADE IMPROVES

There was a considerable improvement in the volume of exports of paper and paper products from the United States during the month of April compared both with the preceding month and with the corresponding month in 1929 according to the Paper Division of the Department of Commerce. Shipments of book and news print papers, which have shown a tendency to decline for the past few months, were 12 per cent and 14 per cent respectively higher than during April, 1929, the latter also showing a gain of 26 per cent over the preceding month. Exports of surface-coated paper for April were more than double those of the preceding month, although showing a slight decline compared with the corresponding month last year.

The heaviest and most consistent increases were perhaps shown in the various classes of wrapping papers. Exports of greaseproof papers were 55 per cent above those of the preceding month and 160 per cent above those of April, 1929, while exports of other classes of wraping papers increased 23 per cent and 57 per cent respectively, and over-issue newspapers by 23 per cent and 100 per cent.

Exports of bags, however, continue to be low, April shipments falling 20 per cent under those made during either of the other months mentioned. Board shipments on the whole continue to show up very well.

Vulcanized fiber exports during April were under those of either March or the corresponding month in 1929, but increases were registered in boxboards of various sorts as well as other paper boards and boxes and cartons. Sheathing paper shipments were nearly double those of March, although falling under the April, 1929, exports by 10 per cent; wall boards show a decline of between 35 and 40 per cent compared with either March or April, 1929, but losses in this line were more than offset by the heavy increases in shipments of insulating boards and lath.

Total exports of paper and paper products during the month of April were valued at $2,866,159, this figure representing an increase of about $5,500 over the preceding month and falling under the April, 1929, valuation by about $88,000. While this would seem to indicate a decline in the volume of shipments, the latter actually increased, a lowering in the average prices obtained for a number of the leading items having served to bring down the total valuation during April.

In addition to paper and paper products, $1,059,137 worth of paper base stocks were exported during April.

Imports of paper and paper products continue to show little variation from month to month, the April receipts totaling $12,385,754 as against $12,410,732 during March and $12,128,812 during the corresponding month last year. Between 85 and 90 per cent of this amount is represented in the imports of standard news print, the remaining 10 to 15 per cent comprising mostly other printing papers, writing papers, wrappings, and boards. April receipts of news print totaled 166,093 tons (long ton of 2,240 pounds) a decrease of 1,329 tons under the preceding month but an increase of 7,092 tons over April, 1929.

Of the other items in this group, with a total valuation of $1,500,872, imports of pulpboards in rolls, greaseproof, and writing papers registered an increase in April compared with either of the other two months, while heavy decreases occurred in kraft and other wrapping papers and tissue papers.

Imports of paper base stocks into the United States during April were consistently lower, increases being registered only in imports of waste and of unbleached sulphite pulp as compared with the preceding month.

Receipts of pulpwood, which totaled 67,903 cords were 45 per cent under the March imports and 3 per cent under those for April 1929. Imports of groundwood, amounting to 18,423 tons, were 24 per cent under the March receipts, and 11 per cent under those of a year ago; bleached sulphite shipments registered decreases of 34 per cent and 4 per cent respectively; and sulphate pulp 15 per cent and 44 per cent.

The value of the aggregate receipts in this group for April was $7,285,694, a decrease of 13 per cent under March and 17 per cent under April, 1929.

BUSINESS RECOVERY PREDICTED

Business has definitely settled down to the expectation of a dull summer. Between June and September seasonal influences do not favor trade revival; therefore, it is quite logical to assume that the autumn stimulus will provide the next opportunity for an upturn, says the Guaranty Trust Company of New York. Although recent reports have had a sobering effect on business predictions, there is a general disposition to believe that trade will recover in the fall and that "normal" activity will have been restored by the end of the year.

Such an expectation is by no means unreasonable, supported as it is by certain favorable conditions, such as low money rates, fairly well maintained wage scales, and a generally moderate level of inventories. There are, however, certain considerations on the other side. One is that the present depression has been in evidence for only a very short time in comparison with most recessions of similar scope in the past. Although business activity reached its peak approximately a year ago, the decline in the early months was moderate; and it was not until the collapse of stock prices had added its depressing influence that production and distribution sank to unmistakable sub-normal levels.

Canadian Imports and Exports Increase

[FROM OUR REGULAR CORRESPONDENT]

Exports of wood pulp and paper from Canada in May were vauled at $16,725,081, according to a report issued by the Canadian Pulp and Paper Association. As compared with the previous month this was an increase of $4,525,887 and showed only a small decline from the total for May 1929.

Wood pulp exports for the month were valued at $3,288,475 and exports of paper at $13,436,606, as compared with $2,631,122 and $9,568,072 respectively in the previous month.

Shipments of the various grades of wood pulp and paper for May 1930 and 1929 were as follows:

	May 1930		May 1930	
PULP:	Tons	$	Tons	$
Mechanical	15,660	460,905	21,706	565,230
Sulphite Bl.	19,024	1,355,194	20,009	1,527,375
Sulphite Unbl.	18,266	905,509	18,205	896,093
Sulphate	8,297	514,371	11,566	670,715
Screenings	1,577	29,705	4,138	64,590
All Other	392	22,791		
	63,216	3,288,475	75,624	3,724,003
PAPER:				
News print	225,251	12,951,471	214,342	12,614,252
Wrapping	1,400	144,186	1,310	138,232
Book (cwts)	3,019	26,915	5,936	50,776
Writing	315	2,892	38	1,149
All Other		311,142		320,321
		13,436,606		13,124,730

For the first five months of the current year, the exports of pulp and paper were valued at $76,644,844 as compared with $79,911,124 in the corresponding months of 1929, showing a decrease for this year of $3,266,280.

Wood pulp exports for the five months period were valued at $18,114,846 and exports of paper at $58,529,998 as against $17,737,628 and $62,173,496 respectively in the first five months of 1929.

Details for the various grades are as follows:

	Five Months 1930		Five Months 1929	
PULP:	Tons	$	Tons	$
Mechanical	78,617	2,313,356	73,257	1,968,427
Sulphite Bl.	116,270	8,604,461	107,495	8,234,923
Sulphite Unbl.	88,654	4,409,971	77,556	3,862,835
Sulphate	44,115	2,551,812	57,739	3,438,015
All Other	11,205	235,246	12,889	233,428
	338,861	18,114,846	328,936	17,737,628
PAPER:				
News print	973,282	56,098,107	990,406	59,563,671
Wrapping	6,396	671,596	6,516	706,556
Book (cwts)	17,397	162,572	33,603	277,162
Writing	1,068	9,805	3,043	26,436
All Other		1,587,918		1,599,671
		58,529,998		62,173,496

Pulp wood exports for the first five months totalled 510,347 cords, valued at $4,780,208 as compared with 470,848 cords valued at $4,315,939 exported in the first five months of 1929.

Acquire Warren D. Spengler Inc.

Harold K. Ferguson, president of The H. K. Ferguson Company, international engineers and builders at Cleveland, Ohio, recently announced that his company has acquired the business, assets and good will of Warren D. Spengler, Inc., consulting power plant engineers of Cleveland.

The Spengler organization was established eleven years ago by Warren D. Spengler, and during its development his two brothers, Ralph A. and Harold H. have become associated with him in addition to other members of the organization. All three brothers are graduates of Massachusetts Institute of Technology, Warren and Harold in addition being graduates of Western Reserve University.

During the history of the company, the Spengler organization has been retained by several large utilities and industrial concerns to study and develop means of attaining more economical operation of their properties. On several occasions they have effected striking economies in the production and use of steam and power. Through their research they have also made important advances in low temperature coal carbonization.

Included among the Spengler clients are, the Cincinnati Dayton Traction Company, now a part of the Cincinnati & Lake Erie Railroad; Fox River Division of the Aurora, Elgin & Chicago Railroad, now Insull property; Miami Beach Electric Company; Monsanto Chemical Works, St. Louis; Paul A. Sorg Paper Company, Canton, Ohio; and Western United Gas & Electric, Aurora, Illinois.

The entire personnel of Warren D. Spengler, Inc., will join The H. K. Ferguson Company, maintaining under new leadership the same activities as in the past, plus the complete construction and equipment service which the Ferguson Company maintains.

This is the second nationally known engineering concern which has joined The H. K. Ferguson Company within the last two months, the first being the De Vore Engineering Company, of Toledo, Ohio, specialists in the design and layout of glass plants and paper mills.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 2, 1930.—The Government Printing Office has announced the following paper awards.

The R. P. Andrews Paper Company will furnish 40,000 pounds (16,000 sheets) of No. 2 quality binders board at 3.5 cents per pound, bids for which were formally opened on Wednesday, June 18.

Barton, Duer & Koch Paper Company will furnish 40,000 pounds of manila calendered tag board in 23¼ inch rolls at 7.2 cents per pound. The R. P. Andrews Paper Company will furnish 6,000 sheets of deckle edged buff antique cover paper 10½ x 29, at $25.60 per M less 2 per cent. The Tarentum Paper Mills will furnish 3,200 pounds (10,000 sheets) of 24 x 36, high finish red sulphite paper at 7.535 cents per pound. Bids for all of these items were received on June 13.

The American Writing Paper Company will furnish 1,705 pounds (25,000 sheets) of 38 x 48, fifty per cent rag white manifold paper at 23.58 cents per pound, bids for which were received on June 6.

The Hudson Bag Company will furnish 3,000 pounds of No. 1 gummed kraft paper at 8.75 cents per pound, bids for which were received on June 4.

Crane & Co. To Supply All Currency Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 2, 1930.—The contract for supplying the entire amount of paper for making paper money next year will go to Crane & Co., Dalton, Mass., following decisions by Controller General McCarl.

The Crane Company has been making this distinctive paper for many years, but the Bureau of Efficiency raised a question this year concerning the bid of the Crane & Co., and it was sent to the controller general for decision. The lot which amounts to some 1,250 tons, is to cost in the neighborhood of $1,056,000.

Zeloid to Make Transparent Paper

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 1, 1930.—Announcement was made Saturday by the Zeloid Products Corporation that a contract had been consummated between that company and Austin P. Fox & Co., of New York City, whereby funds will be secured for the installation of equipment necessary for successful operation. Lack of interest locally led the company to seek financial aid elsewhere. The amount is not to exceed $10,000,000 and whether the stock is to be offered to the public at large has not yet been decided. The company bought the Riverside No. 1 mills of the American Writing Paper Company, Inc., some months ago and propose to make the transparent papers for which such a large demand has come about the past year or two, by a new process.

AMPLE FACILITIES ASSURE EXCELLENT SERVICE IN KALBFLEISCH ROSIN SIZE

KALBFLEISCH is exceptionally well organized to give superior service in Rosin Size. We operate four scientifically equipped Rosin Size plants, located with especial reference to the needs of the paper industry.

Shipments of Rosin Size are made direct from these plants in Erie, Pa., Waterbury, Conn., Kalamazoo, Mich., and DeQuincy, La., in tank cars and in drums. The Franklin Tank Line, owned and operated by Kalbfleisch, assures promptness in making shipments.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Continuous Breaking and Beating of Waste Paper

By B. Ivar Humble[1]

Author's Note: As an Industrial Fellow of the American Scandinavian Foundation I made a trip around the country visiting some paper mills this summer. My trip was extremely interesting from the start all the time to the end, and I want to express my thanks to everybody for the courtesies extended to me. Some of the information I gathered on the trip may be of general interest. In the following tables are given some data from waste paper breakers.

Shartle Breaker Beater in Board Mills

Attached Table 1 shows data for breaker beaters made by Shartle Brothers Machine Co., Middletown, O. It is claimed that at least 75 per cent of all the board manufactured in the United States is prepared in this type of beater. This breaker system is probably well known to readers of this magazine, but a brief description of it will be given.

The paper stock, consisting mostly of mixed waste paper or news paper, is tumbled into the breaker beater at a rate of from one-third to one-half bale at a time. A continuous stream of make up water keeps the stock at a consistency of from 2.5 per cent to 5 per cent or even higher.

The paper is passed under the roll, which is turning at a speed of about 1500 linear feet per minute, and with a clearance of around 8 inches between the bars and the backfall. The backfall is perforated, and the pulped stock flows out through this perforation by gravity into a regulator box, leaving all foreign trash and rubbish larger than ¼ inch in diameter in the beater tub. The beater does not have a bedplate.

The foreign material, which is suspended in the stock in the tub, is removed from the breaker by means of a rag catcher, which can be lowered into the tub and hoisted up again. The "rags" must be raked off from the rag catcher by hand in older installations. A new construction of the catcher is furnished with a hopper into which the rags are automatically tipped off when the catcher is hoisted up.

Heavy rubbish is removed from the bottom of the tub continuously by means of the Murphy junk remover at big sized breakers. Smaller breakers, where the junk remover would be too expensive to put up, are necessary to shut down now and then for the cleaning of the bottom.

The production of the breaker is in proportion to the size of the roll. According to Table 1 it varies at different mills between 0.98 and 1.98 tons of waste paper per 24 hours per square foot of the roll surface. The variations in this figure are due to different paper stock and to varying cleanliness, that is, different shrinkage of this stock. The size of the perforations has a great effect upon the production, and small variations in the speed of the roll may also make some difference. The temperature of the

[1] Member TAPPI, Chemical engineer, Hylte Bruk A/B, Hyltebruk, Sweden.

TABLE 1.—DATA FROM SHARTLE BREAKER BEATERS IN BOARD MILLS

	Mill	1	2	3	4	5	6	7	8	9
2.	Beater trough, material	Cast iron	Concrete	Concrete	Concrete	Cast iron	Cast iron	Concrete	Concrete	Concrete
	Beater trough, approximate capacity (in feet)	1900	1200	....	2100	3500	....	....	....	6300
3.	Cleaning equipment	Rag catcher	Rag catcher	Rag catcher	Rag catcher	Rag catcher Junk remover	Tipping Rag catcher Junk remover	Tipping Rag catcher Junk remover	Rag catcher Junk remover	Rag catcher Junk remover
4.	Roll, diameter (inches)	72	72	72	84	72	72	84	84	84
	width (inches)	48	54	54	60	72	72	84	84	84
	cylinder surface (square feet)	75	85	85	110	114	114	154	154	154
	number of bars	16	..	..	22	28	28	..	24	24
	size of bars above roll surface (inches)	¼x5	..	..	¾x6	1½x6	1x8	..	¾x8	¾x8
5.	Speed of roll, revolutions per minute	82	80	75	70	74	85	75	84	75
	feet per minute	1550	1500	1410	1540	1400	1600	1650	1840	1650
6.	Make-up water, temperature, deg. F.	140	125	185	140	115	150	...	140	110
7.	Consistency, per cent bone dry	4–5	2.5	4–5	4	5	...	5–6	6–7	2.5
8.	Perforation of backfall, diameter of holes (inches)	¼	¾	¾	¾	¾	¾	¾	⅞	1
9.	Stock used	Clean mixed	Mixed or news	News	Clean mixed	Unclean mixed	Mixed	Mixed	Dump stock mixed	Dump stock mixed
10.	Production, tons per 24 hours	75	90	150	120	140	135	150	200	200
	tons per 24 hours per square feet of roll surface	1.00	1.06	1.98	1.09	1.23	1.19	0.98	1.30	1.30
11.	Horse power of driving motor	100	...	125	200	200	150	250	250	250
	Power consumption, H.P.	100	110	125	175	190	...	...	220	175
	H.P. per square feet roll surface	1.33	1.39	1.47	1.59	1.67	...	...	1.43	1.14
	H.P. per tons per 24 hours	1.33	1.22	0.84	1.46	1.35	...	...	1.10	0.88
12.	Beater, capacity, tons of stock	2.5	0.9	..	2.4	5.0	...	...	...	4.5
	Average corresponding beating time (minutes)	47	14	...	29	51	...	...	...	32

make up water is usually kept around 140 deg. F. but it varies a little.

The high production of 1.98 tons per square foot per 24 hours at Mill No. 3 is achieved with clean news stock and water of 185 deg. F. This high temperature made the work around the breaker very difficult and disagreeable even with the room well ventilated.

The power consumption of the breaker is in proportion to the size of the roll, as long as the speed of the roll in feet per minute is kept constant. It varies from 1.14 to 1.67 h.p. per square foot of the roll surface. High power consumption is due to high speed of the roll, high consistency of the stock or unclean stock in tub. The number and size of the bars on the roll and the more or less worn down condition of them will have some influence on the power consumption as well.

In particular the consistency of the stock has a great influence upon the power consumption. The lower figure 1.14 h.p. per square foot at Mill No. 9 is obtained at a consistency of 2.5 per cent, which is the consistency recommended by the manufacturer. It is, however, difficult to keep such a low consistency as this, if the breaker tub is not very large. It seems to be necessary to have enough stock in the tub for about half an hour's run. If the tub is too small, there remains no other way, than to increase the consistency.

The power consumption calculated as h.p. per ton production per 24 hours will naturally vary considerably according to all these varying conditions in different mills. It ranges from 0.88 in Mill No. 9 for a big sized breaker with low consistency, to 1.46 at Mill No. 4, where the cleaning equipment is not up to date. The average power consumption at all the nine mills is 1.18 h.p. per ton per 24 hours.

The power consumption of a certain breaker beater is quite independent of the production of the breaker, as long as the roll is kept turning all the time. The only way to avoid high power consumption, when the breaker is worked at low production, is to run with full output for as long time as possible and then shut the machine down for a corresponding length of time.

In some mills they never stop the roll, but regulate the ouput at the regulator box, where the stock is leaving the backfall. In a case like that it is possible to get almost any value for the relative power consumption. The data in Table 1 shows as far as possible values with the beater running continuously at good standard output.

Shartle Settling System for Waste Paper Stock

When passing through the perforations of the extractor, that is the backfall, of the breaker beater the stock is separated from the greater part of the rubbish, which comes along with the waste paper. As the rubbish, however, is subject to the same treatment by the roll as the paper itself some of it will break down enough to pass through the extractor along with the pulped stock. Shartle Brothers Machine Company is providing a settling system for removing all heavy particles of foreign matter from the stock.

TABLE 2
DATA FROM SHARTLE SETTLING SYSTEMS IN BOARD MILLS

1. Mill	1	2	3	4	5	6
2. Capacity, tons per 24 hours	90	135	140	150	195	200
3. Settler, height (feet)	100	120	80	60	150	150
width (feet)	4.0	4.0	3.8	4.0	8.0	6.0
depth of stock (feet)	1.9	1.9	2.5	1.9	1.9	2.5
4. Consistency of stock in settler (per cent)	1.0	1.5–2.0	1.5–2.0	1.5	0.9	1.5–2.0
Suspension (gals. per minute)	1650	1420	1470	1830	4000	2100
5. Speed of circulation (feet per minute)	29.0	25.0	20.0	32.0	35.0	19.0
6. Settling time (minutes)	3.45	4.80	4.00	1.90	4.30	8.00
7. Thickeners, total surface (sq. ft.)	80	160	160	240	240	240
Ordinarily used (square feet)	80	160	160	160	240	160
production, tons per 24 hours per square feet	1.12	0.84	0.88	0.94	0.81	1.25

Table 2 shows data from the settling systems of six different mills. According to the manufacturer the settler should be worked at a consistency of preferably less than 1 per cent. The speed of the stock should not exceed 30 feet per minute, and the settler not be less than 100 feet long. This will provide a settling time of 3 1/3 minutes. The depth of the stock should be 20 inches or less.

None of the six mills in the table are operating according to all these rules, but mills 1 and 5 are reasonably near the ideal. The settlers are for the most part too narrow and short, or the pump for circulating the back water in the system is too small, which makes it necessary to run at higher consistencies than 1 per cent. The settling of efficiency seems to be very satisfactory in all the mills.

If the breaker beater is worked at low output with alternative shut-downs as discussed, it is very difficult to operate the settler satisfactorily. This is one reason for running continuously, as they do in some mills, even at low production. That will, however, give a high relative power consumption.

For thickening the waste paper stock after the settler, it seems to be sufficient to provide thickeners corresponding to a production of 0.9 tons per 24 hours and square foot thickening surface. The output of the thickeners can of course be increased within certain limits by speeding up the cylinder a little. The average speed is around 20 revolutions per minute.

Shartle Breaker Beaters for Better Grades of Waste Paper

When the waste paper is used for re-inking and bleaching, the initial breaking up of the paper is done either in dry condition with a Mitts & Merrill shredder, for instance, or it is pulped wet. This pulping is mostly done either in a Noble & Wood pulping engine or in a Shartle breaker beater. The relative power consumption seems to be about the same for these two machines if the pulping engine is equipped with a continuous extractor. This machine has some

TABLE 3.—DATA FROM SHARTLE BREAKER BEATERS IN DE-INKING PLANTS

1. Mill Numbers	1	2	3	4
2. Beater tub, material	Cast iron	Concrete	Cast iron	Concrete
approximate volume (cubic feet)	450	....	520	3500
3. Cleaning equipment	None	None	None	None
4. Roll, diameter (inches)	60	66	60	72
width (inches)	36	48	54	72
cylinder surface (square feet)	47	69	71	114
number of bars	16	..	..	18
size of bars (inches)	¾x8	..	..	1x10
5. Speed of roll, revolutions per minute	115	80	95	80
feet per minute	1800	1380	1500	1500
6. Make-up water	Fresh water	Fresh water with soda ash	White water	Fresh water and white water
Temperature, degrees F.	120	185	130	140
7. Consistency (per cent)	3½	5	3–4	5
8. Perforation of backfall (diameter in inches)	1	¾	¾	1¼
9. Stock	Book and magazine and 15% ledger	Book and magazine and 10% ledger	Book and magazine and 15-20% ledger	Book and magazine
10. Production (tons per 8 hours)	25	100	28	140
(tons per 24 hours per square feet of roll space)	1.6	4.3	1.2	3.7
11. Motor power (horse power)	50	100	....	....
Power consumption (horse power)	40	110	....	....
H.P. per square feet of roll surface	0.85	1.60	....	....
H.P. per ton per 24 hours	0.53	0.37	....	....
12. Beater tub capacity (tons)	0.45	....	0.53	5.0
Time to disintegrate stock (minutes)	9	....	9	17

advantages especially for comparatively small installations, where they are very handy and work with very low power consumption.

The Shartle breaker seems to be the simplest machine of the two, and is built in bigger units. Very few of them are on these grades of waste paper thus far, but some new and modern de-inking plants have them running with very good success.

Table 3 shows some data for four such installations. Unfortunately it was not possible to obtain complete information about all these machines. The table shows, however, that most of the operating conditions are very much the same for these machines as for the board mill breakers. The consistency is perhaps kept slightly higher. The reason for this is, that the stock is going to the boilers in the same condition as it has from the breaker, and the higher consistency is wanted in the boilers.

One big breaker Mill No. 4 has a 1-½ inch perforation in the backfall. This makes the stock leave the machine earlier in less thoroughly pulped condition. That procedure can be followed since the stock later is going to be treated in boilers equipped with powerful centrifugal circulating pumps, which will complete the defibration of the stock.

The production calculated per square foot of roll surface is mostly higher than in the board mills. This is due to the cleaner paper stock with low shrinkage, and to larger holes in the backfall. Mill No. 2 is using soda ash in the make up water and a temperature of 185 deg. F, which is putting the production at a high mark of 4.3 tons per 24 hours and square of foot roll surface.

The power consumption expressed as a function of the area of roll surface should be the same as in the board mills or slightly lower as the stock in the tub will be cleaner here. Calculated relative to the production the power consumption is very low in accordance to the high output from these machines.

Paper Machine Felt Specifications

SPECIAL INQUIRY No. 148

A member writes: "A short time ago a question came up in my company, concerning paper machine wool blankets, called in the industry, wet felts or bottom felts.

"We manufacture asphalt composition roofing, the base of which is rag felt made on a cylinder paper machine. To take care of our several plants and their paper machines, we, of course, have to buy and use many thousands of dollars worth of both press felts and second felts.

"As far as the writer can determine, these felts have always been bought from their manufacturers by this company, and in fact, all companies, without the knowledge of the material other than what the blanket manufacturers tell us themselves. The length of time that this felt or that felt was used on the machine is apparently the only criterion from which is determined whether the blanket in question is more suitable or more advantageous to use on the machines than another type or another make.

"In other words, we are endeavoring to find out whether or not specifications can be established to set up from which to buy this product with more technical understanding than weight, weave, and the length of time run on the machine.

"We have previously written to the Government, both the Paper Division and the Textile Division, and they inform us that there are no federal specifications nor has there been any work done at the Bureau concerning this subject, and they suggested that we take the matter up with you. Have any of the companies in the industry ever set up specifications concerning the buying of wet or second felts, and if they have, are any of their figures available? If there is no actual data available, we would like to get the viewpoint of others in the industry on this subject."

All those replying to this inquiry will receive a transcript of all the replies received, in blank. Send replies to Secretary of TAPPI, 18 East 41 street, New York, N. Y.

Glue and Starch-Sized Papers

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 25, 1930.—Additional results have been obtained in the study of glue and starch-sized papers prepared recently in the Bureau of Standards experimental paper mill from highly purified wood fibers. In a statement on the relation of sizing materials to stability of paper the Bureau says: The papers were tub sized with these materials; that is, sized by passing them through solutions of them. The sized papers were tested for alpha cellulose content and copper number, and the effect of heating on these properties determined.

Four different tub-size runs—glue, glue and alum, starch, and starch and alum—were made on each of three different base papers. These base papers were a waterleaf, and two engine-sized papers sized, respectively, with one-half and 1 per cent rosin. Controls of the unsized papers corresponding to each of the tub-size runs were tested individually, including the stability test. These control samples were taken just before and after each run so as to be representative of that particular run. This plan of testing provided four individual fold and tear retention values on each of the three basic papers, and made possible some conclusion as to the reproducibility to be expected in these stability tests. A summary of these values is tabulated below.

	Retention of fold		Retention of tear	
Basic paper	Average Per cent	Average variation from the average Per cent	Average Per cent	Average variation from the average Per cent
Waterleaf	99	9	91	2.0
Engine-sized:				
½ per cent rosin	87	6	90	1.5
1 per cent rosin	84	7	88	2.0

While there are comparatively wide variations in individual fold-retention figures, the variations are no greater than commonly experienced in folding tests.

All the papers were found to be very stable toward the heat test, exhibiting very little change in strength. In all cases upwards of 80 per cent of the initial folding endurance was retained after heating. Papers tub sized with glue or starch containing alum were found to be no less stable than corresponding papers containing no alum in the size baths.

The stability as determined by decrease in alpha cellulose and increase in copper number on heating is improved somewhat on tub sizing, evidently through the protective effect of the surface coating of glue. The presence of alum in the tub-sizing bath has no deleterious effect upon the stability as measured by changes in alpha cellulose and copper number. This agrees with previous conclusions as to the relative harmlessness of external acidity; that is, acidity added by the tub sizing. The excellent stability of all these papers is further indicated by the fact that in all cases the decrease in alpha cellulose on heating is less than 1 per cent, and the increase in copper numbers less than 0.2. These results further confirm those obtained by the bureau in tests of commercial papers.

Irwin Copeland to Manage Three Rivers Mill

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., June 28, 1930.—Announcement is made of the appointment of Irwin H. Copeland, of this city, to the position of manager of the mill of the International Paper Company at Three Rivers, Canada. He succeeds C. W. Walker, who has been placed in charge of the entire news print division in Canadian territory.

Mr. Copeland has had many years of experience with paper concerns in this section. At one time he was connected with Finch, Pruyn & Co. and later he was associated with the Abitibi Power and Paper Company at Murray Bay, Quebec. He has been connected with the Three Rivers plant for the past two years. The mill has an output of approximately 900 tons of news print paper daily.

More About the Beater Value of Pulps*

By O. P. Gephart[1]

This paper has as its objective the further outlining of a method for pulp evaluation[2] which has been in successful use for more than a year and endeavoring to point out the great use which can be made of such evaluation in forecasting the behavior of a pulp during processing and the results to be obtained in a finished sheet of paper.

The points brought out are observations which have come into the writer's experience in applying laboratory results of pulp testing to actual beater room furnishes and the making of paper therefrom.

Any one making trial runs of paper without knowledge of certain pulp characteristics, and trying to get certain results in the finished sheet will appreciate the value of a reliable method for pulp evaluation.

Methods of pulp evaluation should take into account the characteristics of both beaten and unbeaten pulp and should include a picture of the effect of beating as well as the determination of the initial strength. This sort of combination will also show the rate of hydration and predict its behavior during processing.

After all, the reliability of any method of pulp testing or evaluation depends on its adaptability to the particular processing method to which it is to be applied and its correlation with results in the finished sheet of paper.

The standard routine test adopted should bring out as many physical variations as possible both in the beaten and unbeaten state because in making paper all the physical characteristics come into play, such as bursting, tearing, folding, tensile strength, bulk, density, opacity, etc.

The relation and importance of these qualities varies depending on the method of processing, and the significance of an unbeaten test, or a beater curve, where a certain value is placed upon a pulp, must be transferred to actual paper making as carried out in any particular mill.

No one should feel more sure of the results to expect than the superintendent who actually knows all about the raw materials he is working with and the limits of variation in pulps which he can overcome through his method of processing or slight furnish changes.

Since there are a large number of physical qualities in pulp which have certain influences on the finished paper and since it appears that Mullen and tear are two of the most important from the standpoint of strength, then it is logical to include the relation of both factors in a pulp evaluation method. Mullen is a factor which is expressed as such and tear is a factor which is not brought out nor expressed correctly by any other test.

This method of strength testing is simply following the tentative standard as adopted by the Technical Association in 1928. Since that time the British report has been published and they have gone into a very detailed study of the effects of various changes in manipulation and any one interested in pulp testing should read it.[3]

The calculation of beater value has arbitrarily been chosen and is as follows: "The points Mullen per 100 pounds basis weight is added to one half the tear in points per 100 pounds basis weight and the result divided by two. By so doing the effect of tear alone is not too greatly emphasized."

Assuming then that a pulp has a certain inherent Mullen and a certain inherent tear in the unbeaten form, and that Mullen is the one property which can be developed artificially, but at the expense of tear, it is reasonable to assume that a certain strength value can be placed on that pulp which will remain constant during the beating period. In other words, there is just a certain amount of strength in the pulp and you can use it as you choose, either take a lower Mullen and higher tear or a higher Mullen and lower tear. See Fig. 1.

* Presented at the annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 19, 1930.

[1] Member TAPPI; Chief chemist, Oxford Miami Paper Company, W. Carrollton, Ohio.

[2] Paper Trade Jour. July 4, 1929, pp. 53-55.

[3] Paper Trade Jour. July 4, 1929, p. 54.

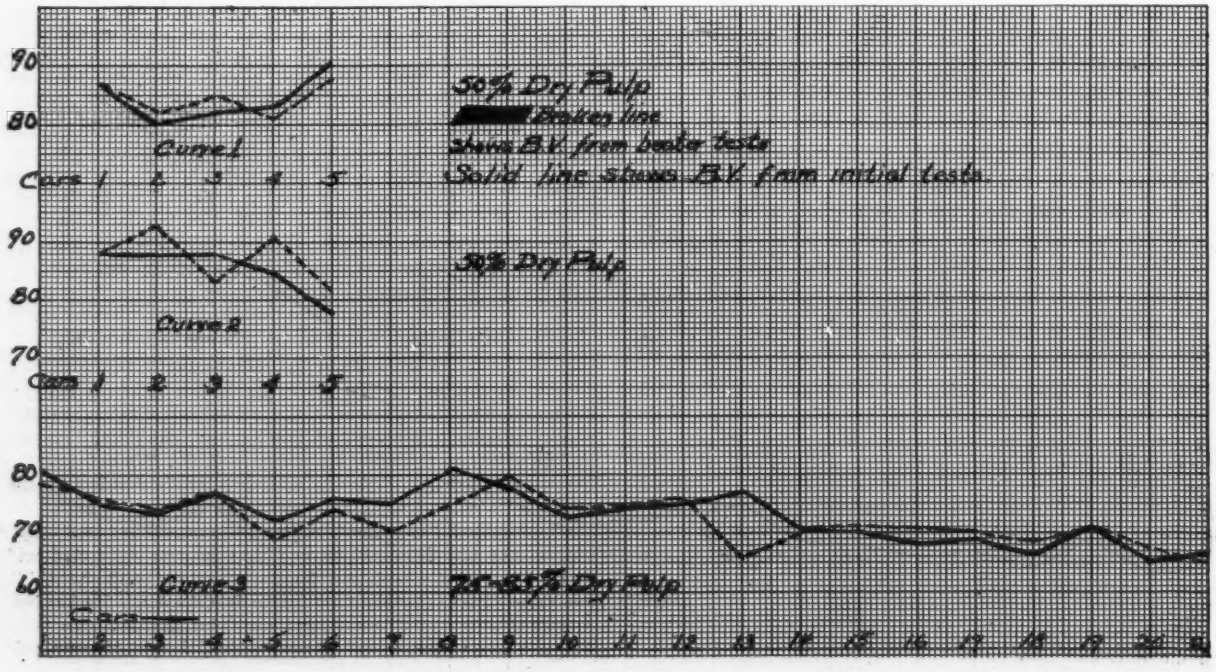

FIG. 2

This chart shows beating curves up to 50 minutes, this particular time having been shown by repeated trials as being the maximum treatment given any furnish by processing through a certain beater and Jordan combination. This length of time was established by beating the stock before and after regular treatment in the mill and it was found that stock treated to its maximum through process did not rise in Mullen when later placed in the little beater.

Four beater curves from actual tests of different grades of sulphite are shown. Curve 1 shows a high Mullen with average tear, giving a good beater value. Curves 2, 3 and 4 shows approximately the same Mullen values but having widely varying tear values. Therefore their beater value will vary as indicated. No. 4 will not produce a sheet of paper with as great a tear as will No. 2. Fig. 1 also shows that the old method of judging a pulp by its developed Mullen alone may be misleading.

Fig. 2 shows instances where the initial strength test and original beater values may be misleading. It shows the unbeaten beater value and the 50-minute beaten beater value for the individual cars plotted against each other. In analyzing Fig. 2 it should be mentioned that curve 1 is for a certain grade of pulp received 50 per cent dry. Curve 2 another grade received 50 per cent dry, and curve 3 another grade received 75-85 per cent dry.

Experimental Data

EXPERIMENTAL DATA

CURVE 1—FIG. 2

Cars 1, 2 and 3....Mullen increased
Tear decreased
Cars 4 and 5.....Mullen did not increase
Tear decreased
Allowing for usual sources of error this is a good check.

CURVE 2—FIG. 2

Car 1.....	Mullen increased.....	98-105	7 per cent
	Tear decreased	157-139	13 per cent
Car 2.....	Mullen increased	97-109	12 per cent
	Tear fell off very little.....	157-153	3 per cent
Car 3.....	Mullen decreased	106-100	6 per cent (soft pulp)
	Tear decreased	139-130	7 per cent
Car 4.....	Mullen increased	87-108	24 per cent
	Tear decreased	164-153	7 per cent
Car 5.....	Mullen increased	85-98	15 per cent
	Tear decreased	137-131	4.5 per cent

Note:—Initial test indicates car 3 as good as car 2 but the beater test showed a much softer pulp. Initial test also shows cars 1, 2, 3, 4 about the same, but beater test shows difference.

CURVE 3—FIG. 2

Cars 1–4.....Good check.
Cars 5–8.....Initial strength shows pulp better than beater curve. All showed usual increase in Mullen but a greater falling off in tear, showing that pulp will not stand too drastic action in jordans.
Car 9.....Unusual increase in Mullen.
Usual falling off in tear keeping beater value normal.
Cars 10–11–12..Good check. Usual increase in Mullen and decrease in tear.
Car 13..... ...Usual increase in Mullen (51 per cent).
Unusually large decrease in tear, 217-127 (41.5 per cent).
This pulp will not stand up under severe processing.
Cars 14–21.....In most cases the beaten test shows pulp slightly better than unbeaten and the usual result may be expected in paper making.

In the purchase of pulp for some converting mills it would seem that tests involving "Beater Values" should play as important a role as those involving moisture content. As an example, pulp costing 5 cents per pound having a beater value of 100 would mean 20 "beater values" per 1 cent. Or pulp costing 4 cents per pound testing 80 would mean 20 "beater values" per 1 cent.

In other words it might be just as economical to pay 5 cents per pound for a good pulp as it would be to pay 4 cents per pound for a weaker pulp. This sort of reasoning if carried to a much greater degree might tend to place certain weaker pulps in a class where they belong and we would be getting nearer a point where quality would play a more important part in price determination.

The foregoing discussion does not emphasize by any means all the characteristics of pulp which are of importance. As was stated in the beginning, the evaluation of pulp from the standpoint of the use to which it is to be put is the all important factor and a general evaluation applicable to all mills and all uses seems to be an almost impossible thing. This method or modification of it may find application in certain mills and not in others and it is only suggested as a possible aid.

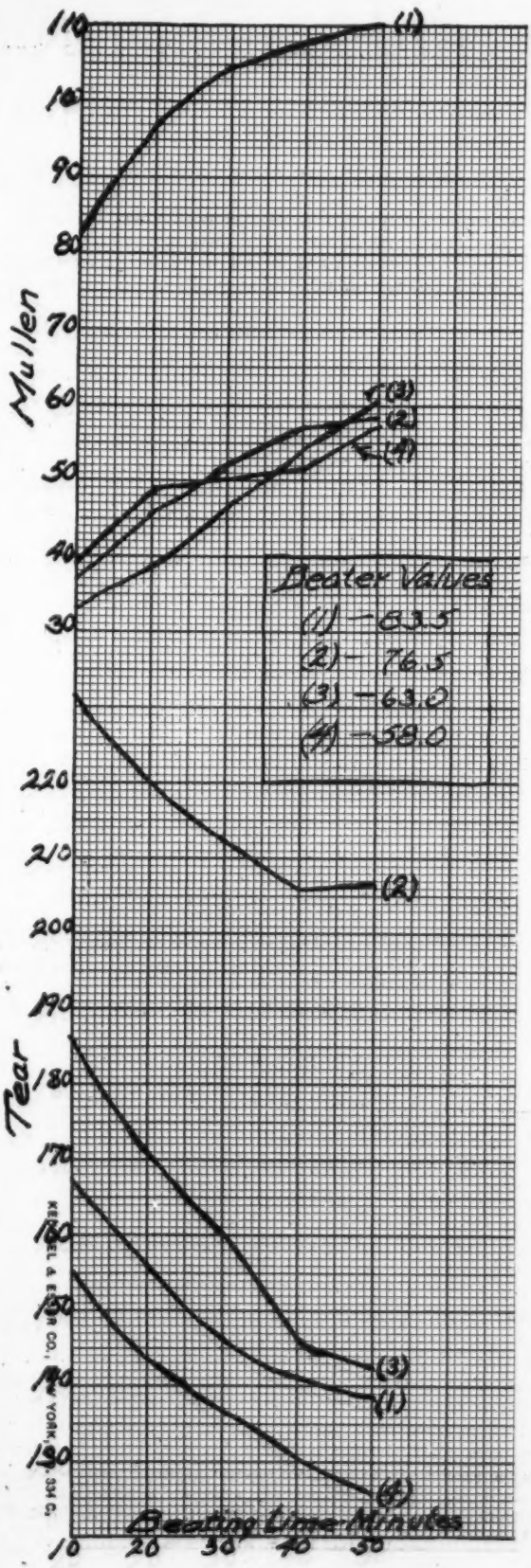

FIG. 1

Artificial Stones in Ground Wood Pulp Manufacture*

By Joseph H. Slater[1]

It is highly significant that the continual effort of operating executives and mill men has always been directed towards obtaining uniform operation, and in that way standard results. As manufacturing moves towards higher quality and greater capacity of production, the need for uniform operation and a standard result becomes more and more important. It is the recognition of this fact and the striving to attain it that has brought about the application of scientific control, and the setting up of numerical values, and measurements in practically all departments of the pulp and paper industry by the most outstanding companies.

It needs no argument to prove that if the papermill operator could always be sure of raw materials such as have given him the best results for limited periods and if he could be sure of getting them always, his best day's operation would become the every day operation. Take the case of the papermill operator who uses a large percentage of mechanical groundwood pulp, as in the manufacture of newsprint. No feature is of more importance to him than a steady uniform grade and quality of groundwood pulp. Indeed it is hardly possible to place too much emphasis on the necessity of having uniform pulp, uniform in freeness, in length and character of fiber, and with all the other features that make up an acceptable standard as may be decdied upon.

Once a modern paper machine is set running and adjusted to use a certain quality of groundwood pulp it will operate for long periods without breaks and interruptions, if the quality of the pulp is held to meet certain predetermined characteristics. But it has always been extremely difficult to hold mechanical pulp to a desirable quality for any great length of time, principally because of the considerable variety, uncertain make up, and rapid changes brought about because of the individuality and variability of natural pulpstones taken from a quarry. This is true of even the best of them.

The variability of natural pulpstones, and the important, undesirable consequences arising therefrom in making pulp has long been recognized, and repeated attempts (until lately, attempted in a rude way) have been made to build or manufacture artificial pulpstones.

Defects in Artificial Stores

For a number of reasons, but principally we believe because the attempts were not mode in a scientific way, they have been failures. I need not dwell on all the details that have entered into the failures, but outstanding among them has been the lack of close control over the grit of the stone; a large part of the failures also came from the poor methods used to hold the periphery, that is the usable part of the stone to the core.

Inserting iron rods in the body of the stone was objectionable because to be of any value these rods had to extend to a point near the surface which greatly limited the usable part of the stone. The various attempts made to build up a stone may all be regarded as lamentable failures. Recently, however, an artificial pulpstone has been made by the Norton Company of Worcester, Mass. This stone by an ingenious arrangement of properly cast segments separated by thin sheets of metal and other materials, and all mounted on a steel or cement core have been for the last three years giving remarkably fine results. In fact, I may say the results obtained are such that a rapidly increasing number of executives and pulpmill operators feel sure that the problem of building a dependable uniform pulpstone has been solved. It has been found necessary to observe certain rules of operation. These are not much different, however, from the rules that ought to be, and must be observed in the proper operation of natural pulpstones.

Heat Effects

To overheat a natural stone unevenly and too rapidly causes splaying, cracking, and splitting, and a general breakdown of the stone, shortening its life besides making imperfect pulp.

Despite the precautions taken and the careful construction of artificial pulpstones, it is not to be supposed that they will always successfully withstand abnormal temperatures. Experience, however, has demonstrated that the artificial stone has successfully resisted temperatures that would destroy a natural stone. Of course, we should not give too much consideration to the building up of a stone just to withstand abnormal temperature. It is hardly to be expected that any stone either natural or artificial can ever be obtained that will sufficiently resist high and uneven temperatures in the body of the stone. However, we contend that the danger from such condition is greatly lessened in the artificial stone under consideration, for the reason that the grit is even, the binding medium uniform, and the periphery, while firmly fixed to the core, is yet built up, and the segments constructed so as to conform to a considerable strain by yielding to all reasonable temperatures. In short it is possible to hold the even face for long periods with a slow smoothing down of artificial stones, thereby making it an easy matter to deal with a large number of stones, and maintain a highly satisfactory average output with an even heat balance. By burring the stones lightly and at regular but infrequent intervals they are enabled to hold to a fairly constant temperature. We have found that a temperature of from 160 to 170 deg. F. is productive of excellent results and when starting a stone after standing idle a few hours, we take the usual common sense precaution of letting it heat up slowly.

Variables in Natural Stores

Progress and the development of better efficiency and economy in mechanical pulp manufacture has been retarded more, we believe, because of the undependable character and wide variability of natural pulpstones than for any other reason. Just consider that in a mill with 20 stones, we actually have perhaps 20 different kinds of stones to deal with or if the mill is better situated, we may have but 15 different stones, or possibly 10. Some of them may be soft, some hard, some very hard, some may have hard or soft spots or lumps in them, or they may have developed a crack, or seams may present sort and hard streaks, or a score of different imperfections as we frequently find.

The companies that have sold the stones are not to blame. They have done their best to give us the best stones they had available, but they were gambling with nature and could only obtain what their quarries contained. Now add to all these variable features the fact that the usual set up of the operating personnel is a pulpmill superintendent, and three pulpmill foremen covering the 24 hours, all with different types of minds and quite certain to have different operating opinions. These men are working and directing other individuals who are striving to give according to their judgment just the proper treatment to each stone, and trying to keep in mind its individual characteristics. It can readily be seen that the chances for anything approaching success, to say

*Presented at the annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 20, 1930.

[1] Member TAPPI, General Manager, Escanaba Paper Company, Escanaba, Mich.

nothing of ideal success, in obtaining uniformity of pulp under such conditions are rather remote. This is no theory; it is a fact. Many mills fall far short of getting the best results in their pulpmills because of just such a combination of difficulties.

Burring Practice

Much has been written, and vastly more has been said about burring pulpstones. All sorts and combinations of the many different kinds of burrs have been used in what may be considered a desperate effort to get the proper kind of pulp, and as much as possible of it. Burring is the very foundation of groundwood pulp manufacture and when properly and skillfully carried out leaves the face of a stone even and impressed with a beautiful file-like pattern, varying according to the grit and bond, the hardness and density of the stone, and the type of burr used. If that pattern would hold for a fairly long time, we would not need to consider a built up artificial pulpstone. But natural stones do not stand up or retain the pattern except for a very short time under the severe grinding pressure and friction to which they are subjected. The burr pattern is what we want to retain with its innumerable sharp edges, but these disappear quickly in the sand stones, and the character of the stock is constantly changing. To attempt to rectify this by still more frequent burring makes variable and shivy stock. The artificial stone is entirely different. Its density, extreme hardness, resistance to absorption of water, and other qualities make it a known quality to the pulp maker, whereas the natural stones are forever an unknown quantity full of disappointing surprises.

Scientific and industrial progress moves in cycles and some branches move forward, and have to wait until other, and coordinating branches move up. This has been true of pulp making. Paper making lagged until we built better paper machines and finally got rid of top couchers and replaced them with the suction coucher. Further progress to any extent is going to be dependent on drying paper, but more especially will it be dependent on a high degree of uniform dependable pulp. Real progress has been made in the past few years in pulp screening and now the whole industry is waiting for the pulp grinding process to develop. It is hardly to be hoped that we will go much further with widely varying natural pulpstones. Therefore, our onlyy hope is attached to a carefully built-up artificial stone, one built on correct mechanical principles, making as much provision as possible for expansion and contraction, built with grit particles of even hardness, of a predetermined size, held together with a bond that will give way at just the proper rate to make unnecessary a too frequent dressing. It would appear from actual trials in a number of different mills over a period of four years that the Norton pulpstone has solved this problem.

Superiority of Artificial Grindstones

Initial stone cost comparison between natural and artificial stones should, we believe, be given secondary consideration for the present, until artificial stones of the kind under discussion have been given a fair trial. I may say in this connection that thus far the weight of evidence is all in favor of the artificial stone despite its higher initial cost. We believe it is only under actual mill operating conditions likely to result from the steady uniform flow of comparatively easily made groundwood pulp made on artificial stones that we can finally gauge the improvement and achieve lower cost. Furthermore, every paper maker knows, or apprehends the numberless economies that will arise from perfect uninterrupted operation in his mill, and all these should be given proper place in a comparison of economy and final cost. Uniformity of pulp produced will certainly count heavily in favor of the artificial stone.

It has been demonstrated beyond all argument that little stone material is taken off in burring artificial stones when compared with the amount removed from natural stones because of the much longer burring cycle, which is once in 24 hours, as compared with every six or eight hours on natural stones. Hence little of the grit and stone material gets into the stock. We cannot begin to measure the savings effected by keeping such large quantities of this stone material out of the stock. Just consider its effect on the paper machines, on wires, and on felts; its abrasive effect on calender rolls where machines are using large percentages of groundwood pulp. We cannot fully realize or measure how much of the stone material is taken up, and carried on to the paper machines. We do know, however, that wherever the flow of stock is slowed up in pulp conduits, heavy deposits of stone material take place and frequent wash ups are required to get rid of it. Large quantities of it adhere to the fiber and are carried on to the paper machines, some being retained by the paper, but much of it being deposited on various parts of the machine.

We are creditably informed that about 85 per cent of the usable part of every pulpstone is taken off in sharpening. It must be appreciated that it is less destructive to the machine clothing, and to the machine itself to lose this 85 per cent of stone material in the stock over a period of several years time when using an artificial stone, than to lose the same amount in the much shorter time of several months. We know that it is not unusual for natural pulpstones to wear down the full amount of their usable part in a very few months and even weeks.

If the length of service of pulpstones is in direct ratio to the frequency and kind of sharpening that the stones receive, as has been stated by one of the natural stone companies, we have a right to believe that stones that will run for long cycles without sharpening, and that when sharpened require only a very light treatment with a burr giving but little loss of stone material, are altogether certain to give uniform pulp in goodly quantity. At the same time the stone is conserved, thereby helping us to avoid the deposit into the stock of large amounts of stone material. This it what has occurred in actual practice under our own observation when using artificial stones.

The theory upon which the Norton Company have preceeded in their manufacture of artificial stones, and the practice that they have followed has been fully explained in papers presented at other meetings of this Association, so that we need not dwell upon that just now, but let it suffice to say that in using these stones, we have found that both theory and practice have apparently been successful in producing an artificial pulpstone. They have many admirable qualities, and have overcome almost entirely the objectionable features and variability of natural stones.

With stones of uniform structure, of slow wearing qualities, built to meet a wide range of average conditions, it would seem that the pulp industry was ready to make a real advance in determining the best method to secure uniformity of product and economy of effort in producing groundwood pulp.

Motion Recorders

The classification of speed instruments referred to as motion recorders, while such terminology may be somewhat misleading, is to be interpreted as embracing those instruments which bridge the gap between speed counters and tachometers. They automatically record the time of an operation, its duration and either the actual operation or the fact that the operation has been consummated. In the mechanical type of motion recorder, it is the actual operation which is self-recorded, while in the case of the electrically actuated device it is the fact that the operation is made which is noted. These instruments are extremely adaptable to the recording of many operations common to pulp and paper making processes and are well deserving of consideration.

In the mechanical type of motion recorder, the movement of the stylus pen tracing the recording graph on the moving dial chart is secured through an external lever arm which is actuated by the motion of the operation recorded. Either clock driven, round or strip charts may be employed and the graph traced records the consumation of each individual operation or cycle of movement, just when it occurred and the extent of the movement.

The Institute of Paper Chemistry*

By Otto Kress[1]

Through the vision of a group of Wisconsin pulp and paper mill executives, there has been established at Appleton, Wisconsin, in co-operation with Lawrence College, a graduate pulp and paper school and research institution known as the Institute of Paper Chemistry. The Institute has been financed by the pulp and paper industry of Wisconsin, and an income has been secured to provide a minimum budget for the operation of the Institute for a period of five years. This support is particularly gratifying as it comes directly from the industry, thereby assuring the Institute of the sympathetic co-operation of the technical and executive men of our industry. As a measure of the enthusiasm and support given to this project, it might be mentioned that over ninety per cent of the Wisconsin mills are financially contributing on a pro rata tonnage basis. I should like to acknowledge at this time that the conception and consummation of this project is due very largely to the efforts of Mr. Ernst Mahler, Vice President and General Manager of the Kimberly-Clark Corporation, Neenah, Wisconsin, and the Institute will try to fulfil in its work his high ideals of scholarship and research.

The Institute of Paper Chemistry has been established in affiliation with Lawrence College, Appleton, Wisconsin, an old, established institution of high ideals and standards, and this affiliation must be of decided benefit to both schools.

The Board of Trustees consists of prominent executives from various Wisconsin mills, and the Institute is looking to their guidance in order to be of maximum service in our particular field. This Board consists of the following men, who are giving in unstinted measure of their time and experience to further our work:

President; Ernst Mahler, Kimberly-Clark Corporation, Vice President; D. Clark Everest, Marathon Paper Mills, Secretary; Henry M. Wriston, President of Lawrence College, Executive Secretary; Westbrook Steele, Treasurer; Ralph J. Watts. Trustees: M. A. Wertheimer, Thilmany Pulp & Paper Company, Dan K. Brown, Neenah Paper Company, L. M. Alexander, Nekoosa-Edwards Paper Company.

Functions of the Institute

The function of the Institute is threefold: to train postgraduate men for the industry, to conduct suitable research work, and to establish and maintain as complete a library as possible.

FIG. 1.
Graduate students at work in the main laboratory.

We realize that other well endowed and equipped universities and engineering schools are giving either partial training or a four year course, the object of which is to train men for the industry. It therefore required considerable study and thought to definitely determine whether or not there was a need for another institution or whether we would only be duplicating work that is now under way and established at other reputable institutions.

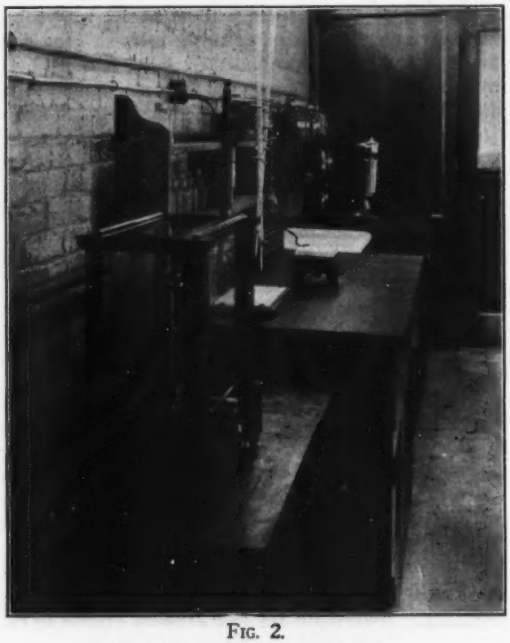

FIG. 2.
Corner of a special research laboratory.

We arrived at the conclusion that the present institutions of learning giving instruction in pulp and paper making to undergraduate students are doing good work, but in our opinion we believe that there is need for an institution to train postgraduate men who have completed their preliminary chemical and engineering training at some other institution. This will bring to the Institute of Paper Chemistry a class of more mature men, whose minds have been trained by their undergraduate studies and who should now be in a position to really do postgraduate work. The Institute is offering for the first semester, which started on February 3, 1930, ten courses of study, some of which will be completed within this half-year, while others are of such a nature that they

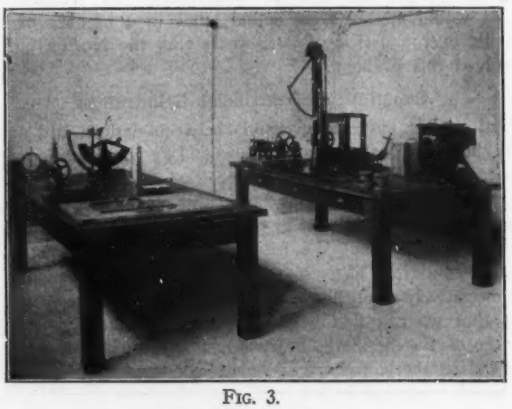

FIG. 3.
Paper testing laboratory.

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., February 20, 1930.

[1] Member TAPPI, Technical Director, Institute of Paper Chemistry, Appleton, Wis.

will require from a year to a year and one-half for completion

The entrance requirement is the equivalent of a B. S. degree from a reputable institution with a major in chemistry The Institute will confer a Master's degree in one year and a Doctor's degree in three years to students who have satisfactorily completed the prescribed work and who have demonstrated that they are worthy of these degrees. All of the students who have entered the Institute have come to us from various mills where they have had from three to four years of mill experience. Students of this kind come to us solely because they feel that their undergraduate training has been rather limited along certain lines, and naturally the progress to be made by such men will be rapid.

The second function of the Institute will be the conducting of suitable research work, and here again we believe that only the men who have completed their undergraduate work in Chemistry and Engineering can be readily trained to do constructive research work in our field. It is common knowledge to all technical men who have had occasion to employ young engineers and chemists directly after their graduation from the university that it takes several years of intensive training on the part of the mill to make these men even paper conscious. With the kind of men who will be accepted as students by the Institute, especially with those who have had several years of mill experience, it will be possible to train them in their research work so that they will be properly equipped to work out the problems presented them by our rapidly changing industry when they return to mill work.

The third function of the Institute is to establish and maintain as complete a library as possible, which will deal with the

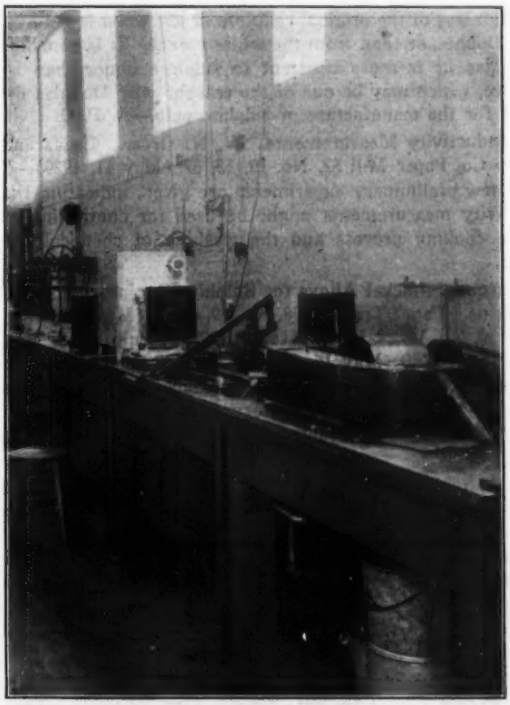

FIG. 4.
A corner of one of the laboratories with Dye Matching and Pulp Strength Testing Equipment.

various phases of our particular industry. Through the generosity of a number of friends of the Institute, funds for the establishment and maintenance of this library have been made available. Through the courtesy of Dr. Clarence J. West of the National Research Council, the Institute becomes the recipient of a large number of domestic and foreign journals dealing with our particular subject. This gift means a considerable saving to us financially, with the result that we will have more available funds for other purposes. It is the hope and expectation of the Institute that within a year's time we will be able to furnish any of the mills with a reference list on any pulp and paper subject in which they might be interested.

Advantages of Location

The choice of Appleton is particularly fortunate, as within a

FIG. 5.
Dr. Otto Kress, technical director of the Institute, in his office.

radius of seven miles there are available mills manufacturing practically all of the ordinary grades of pulp and paper. We do not know of any other similar location in the United States, and this diversity of manufacture is particularly valuable to the students, as the mills have offered to fully co-operate and to open their plants to the members of the Institute. In Appleton there are also located a number of manufacturers of various kinds of pulp and paper mill machinery, as well as felt and wire mills, which again is a particularly fortunate coincidence benefiting the Institute. Some of these manufacturing plants, as for example the Valley Iron Works, have already contributed equipment to the Institute and in his way have given practical evidence of their support. Other companies, such as the Paper Makers' Chemical Corporation, have shown their support by establishing scholarships, the company in question having given two scholarships for a period of five years. Other manufacturers, as for example the Beloit Iron Works, have shown their support by a direct gift to be used in whatever way the Institute might deem most desirable.

The local mills have agreed to co-operate by opening their mills to our students and by offering us the services of their technical men and specialists for lecture purposes. One of the progressive local mills is employing both a physicist and a colloidal chemist, and it is the expectation of the Institute at a future date to have these men offer short courses dealing with the application of their special branches of study to problems of the pulp and paper industry.

The Institute of Paper Chemistry is really not a new idea. It is the result of over three years of discussion and planning on the part of the Wisconsin mills. A survey of the work already being done in other institutions indicated the need for an institute such as I have described, an institution to be devoted to postgraduate and research work in the field of paper and pulp making, an institution in which academic ideals will be preserved and practical training will not be overlooked. We feel that in the Institute of Paper Chemistry we have as near an ideal combination as possible. The management and policy of the Institute rest with peper men who know the needs of the industry. Affiliation with Lawrence College places the academic control in competent hands. It seems manifest that as long as this sympathetic co-operation can be maintained, there can be no question but that the Institute will make an important contribution to the paper industry as a whole.

The Institute is a reality; its first session opened February 3. It has been stated by the Wisconsin mills for the benefit of the industry. They have taken care of the preliminary financing by providing a minimum operating budget for the first five years. At no time has the Institute been regarded as a local enterprise; it is rather an undertaking for the entire industry. No geographical restrictions have been placed on the students, for it is open to qualified men from all sections of the country. At present we have two students from the East,—one from Maine, the other from Massachusetts, both of whom have had two years of mill experience in their home state, and we welcome these men who come from outside of Wisconsin. The Institute is established to render a necessary service to the paper industry, and its facilities are available to the whole industry. The measure of its success, therefore, will not be the measure of the interest and support from the mills by which it was founded; rather, its success will be measured by the interest and support which will come from the industry as a whole. A minimum budget has been provided; true, the Institute can function on that budget, but it would be senseless to think that it would reach its highest stages of effectiveness on the funds already provided.

Increased support will provide added facilities, and the more money the Institute has, the more service it can render. If the paper industry will treat the Institute of Paper Chemistry as a national undertaking on behalf of the industry and will accord it the same united co-operation and interested support which the Wisconsin mills have given it, there can be no question of the result.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C. The charge for this service is 25 cents per page. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Sulphite Process 0.5

Chemistry of the Sulphite Pulping Process. Erik Hägglund. Papier--Fabr. 27, 49-54 (1929).—An address reviewing the work done by H. on this subject. Spruce wood contains about 42 per cent of highly resistant cellulose, 24 per cent hemicelluloses, 28 per cent lignin and 6 per cent acetic acid, resin, ash, etc. During the pulping process about three-fourths of the hemicelluloses are hydrolysed and dissolved. The sugars thus produced in the cooking liquor accelerate the decomposition of sulphurous to sulphuric acid, but fortunately are not formed until late in the cook. The lignin is completed sulponated at an early stage of the cook, apparently within the formation of a solid ligno-sulphonic acid which later is hydrolysed and dissolved. The removal of the ligno-sulphonic acid depends largely on the temperature and H-ion concentration, being best at low acidity, e.t. in $NaHSO_3$ liquor; lowering the acidity however increases the time required. Yields of 60 per cent of very white, readily defiberable, $NaHSO_3$-cellulose can be produced, while $Ca(HSO_3)_2$ gives a 55 per cent yield of pulp containing 7-8 per cent lignin. The higher acidity of ordinary cooking liquor causes greater removal of the hemicelluloses. The flourescence of sulphite pulp in ultraviolet light, and the frequently observed reddening of the pulp, are due to the lignosulphonic acid or some of its components, which were not thoroughly removed in the pulping process.—R. H. D.

Review of the Sulphite Process. Emil Heuser. Canadian International Paper Co., Hawkesbury, Ont. Pulp Paper Mag. Can. International No., 121-128 (Feb. 1929); Paper Mill 52, No. 5, 18-26 (Feb. 2, 1929).—A review of recent progress and modern practice, covering acid making, preparation of the wood, gas and heat recovery, pulp dryers, and chemistry of the cooking process—A. P.-C.

Action of Sulphite Liquor Upon Douglas Fir. W. L. Beuschlein. University of Washington. Paper Trade J. 88, No. 19, 66-67 (May 9, 1929).—Experimental cooks were carried out on extracted Douglas fir (ground to pass a 60-mesh sieve) with liquors containing 3.10 and 3.99 per cent total sulphur dioxide and 1.05 and 0.96 per cent combined, at 130 deg., 140 deg. and 150 deg. C., and for periods varying from 2 to 11 hours. Comparison of the results with those obtained by Miller and Swanson on white spruce showed that the fir pulp has a lower cellulose content, though less of the original cellulose of the wood is removed from the Dougas fir than from the white spruce. It is concluded that Douglas fir is more resistant to sulphite liquor than is white spruce, which may be one of the reasons why Douglas fir is not used for the manufacture of sulphite pulp.—A. P.-C.

Conductivity Measurements. W. N. Greer. Leeds and Northrop Co. Paper Mill 52, No. 19, 12, 37 (May 11, 1929).—Results of a few preliminary experiments are given, indicating that conductivity measurements might be used for controlling the sulphite cooking process and the washing of chemical pulp.—A. P.-C.

Chromium-nickel Alloys for Sulphite Equipment. Lee Wallis Gibbons. Paper Trade J. 88, No. 19, 61-63 (May 9, 1929); Paper Mill 52, No. 19, 24-25, 40 (May 11, 1929); Pulp Paper Mag. Can. 27, 715-716, 750 (May 16, 1929).—A brief discussion of some of the salient characteristics of these metals, with suggestions as to how to secure most satisfactory equipment through a better understanding of the limitations of metals of this description.—A. P.-C.

Sulphite Liquor. Max G. T. Schroeder. Can. pat. 286,048, Jan. 1, 1929.—Sulphite liquor and pure carbon dioxide are produced by extracting a gas containing sulphur dioxide with water under pressure for the recovery of the sulphur dioxide, acting with the sulphur dioxide solution thus obtained on a decomposable carbonate, collecting the carbon dioxide gas and washing the same to remove the sulphur dioxide still admixed therewith.—A. P.-C.

Preparation of Sulphite Liquor. Geo. A. Richter assignor to The Brown Co. Can. pat. 284,216, Oct. 23, 1928.—The spent cooking liquor from the alkaline treatment of unbleached pulp may be used as make-up liquid instead of water in the production of sulphite liquor, either by passing it and sulphur dioxide in counter-current flow through a mass of inert intersticial material, or through a lime tower, or else by employing it for slaking the lime in case the sulphite liquor is formed by passing sulphur dioxide through milk of lime. The spent liquor containing the soluble salts of other organic compounds of sodium or calcium may be employed in the production of a sulphite cooking

liquor having either sodium or calcium, or sodium and calcium as its basic constituent material or materials.—A. P.-C.

Sulphite Cooking Process. T. L. Dunbar and A. F. Richter assignors to Chemipulp Process, Inc. U. S. pat. 1,699,056, Jan. 15, 1929.—Wood chips are digested with acid liquor and high pressure existing in the digester during a portion of the cooking period is utilized for discharging heated high-pressure gas and vapor from the digester during that portion of the cooking period and for introducing the same in its heated condition into acid liquor in an accumulator; suction is exerted on the digester during another portion of the cooking period to withdraw heated low-pressure gases and vapors from the digester and these low-pressure gases and vapors are contacted while heated with a flowing stream of acid liquor; acid liquor thus pre-conditioned, from the accumulator and flowing stream, is utilized for digesting fibrous material. An arrangement of apparatus is described in the specifications.—A. P.-C.

Sulphite Cooking Process. G. H. Tomlinson. U. S. pat. 1,697,032, Jan. 1, 1929.—Hot liquor discharged with the cooked pulp from a digester into a blowpit is used to preheat and to wash into position a second charge of chips into the digester, and there is mixed with the second charge a quantity of cooking acid which has been preheated by the fluid passing through the relief valve of the digester while the first mentioned charge of pulp was undergoing cooking.—A. P.-C.

Sulphite Digester. R. W. Hovey. U. S. pat. 1,702,347, Feb. 19, 1929.—A sleeve having a threaded portion projecting outwardly from the wall of the digester is keyed to the lining of the digester. The sleeve is surrounded by a soft metallic washer, and the threaded portion is provided with a nut for pressing the washer to seal the opening in the wall around the sleeve.—A. P.-C .

Operation of Pulp Digesters. Einar Morterud. U. S. pat. 1,703,745, Feb. 26, 1929.—In order to reduce the pressure in a digester immediately before discharging, at the termination of the digesting process, the digesting liquid is conducted from the digester to a separate gas- and steam-liberating vessel, which is under a reduced pressure; the liquid is then returned to the digester after separation of steam and gas. An apparatus is described in the specifications.—A. P.-C.

Process for the Production of Cellulose. Joaquin Julio de La Roza, Sr. Can. pat. 286,198, Jan. 8, 1929.—Vegetable fiber is treated with dilute sulphurous acid solution the liquor is separated, and the fiber is stored for a period substantially longer than the period of treatment with the acid. The fiber is washed with hot water and then treated with an alkaline solution (sodium or potassium hydroxide) at a temperature above 100 deg. C. and a pressure above atmospheric.—A. P.-C.

Making Digesters Do More Work. Anon. Pulp Paper Mag. Can. 27, 717-718 (May 16, 1929).—In order to enable digesters designed to supply sulphite to four 160-inch news print paper machines to furnish enough pulp to run two additional paper machines, the Chemipulp Heat, Gas and Liquor Recovery System was installed at the St. Lawrence Paper Mills, Three-Rivers, Que., and has resulted in increasing yield and improving efficiency to a point where the production from the four digesters can meet the needs of the six paper machines.—A. P.-C.

Miscellaneous

Cellulose Free from Lignin. R. Muller and K. Horst assignor to I. G. Farbeninlustrie A.-G. Can. pat. 284,033, Oct. 16, 1928.—Wood wool (4 kg.) is treated with 0.5 per cent caustic soda solution at 95 deg C., washed free from alkali, and mixed in moist condition with 65 liters of a solution of calcium hypochlorite containing 2.8 by weight of available chlorine and 0.15% of calcium hydroxide. Milk of lime containing a total of 200 g. of calcium hydroxide is gradually added during the reaction, the temperature being kept at 20 deg. to 45 deg. C., in such a manner that, during the whole of the resolution, free calcium hydroxide can just be detected in the liquor. As soon as a sample of the solid matter shows no lignin reaction when tested with phlorogucinol, the cellulose is separated from the liquor, washed with water until neutral, freed completely from lime by washing with acid, and again washed until neutral, freed completely from lime by washing with acid, and again washed until neutral. The yield of dry cellulose is about 55 per cent calculated on the weight of the original material.—A. P.-C.

Production of Light-Colored Pulp. F. G. Rawlings. U. S. pat. 1,705,827. March 19, 1929.—Light colored pulp is obtained by treating wood with solution containing sodium sulphite, sodium bicarbonate, or other suitable sodium salt of a weakly ionized polybasic acid, and an excess of carbon dioxide, at temperatures up to 190 deg. C.—A. P.-C.

Production of Pulp Suitable for Grease Proof Paper from Straw, Esparto, Etc. E. L. Rinman. Fr. pat. 631,088, Sept. 6, 1927.—Rye or wheat straw, esparto, corn stalks, reed, sugar cane bagasse, etc., is cooked with caustic soda, with or without sodium sulphide, at 100 deg. to 140 deg. C, so that the glutinous substances present in the raw material are not destroyed; the waste liquor is separated from the pulp after the boiling at a temparature not exceeding 50 deg. C., so that the glutinous substances are not dissolved; bleaching is carried out at not over 30 deg. C. so as not to affect the glutinous substances. The pulp is beaten in a beater provided with light tackle to avoid cutting or tearing the fibers and may be used for making grease proof paper. In admixture with long-fibered pulps it may be used for the manufacture of strong papers.—A. P.-C.

Process for Making Stock Suitable for Grease Proof Paper. E. L. Rinman. Can. pat. 284,182, Oct. 23, 1928.—Straw, esparto, reed and similar raw material is boiled with caustic soda at a temperature not exceeding 140 deg. C., whereby glutinous substances present in the raw material are not destroyed; the waste liquor is separated from the cellulose after the boiling is completed at a temperature not exceeding 50 deg. C., where the glutinous substances are not dissolved from the cellulose: the cellulose is ground in beaters so that the fibers are not cut or torn, and a pulp is obtained having a degree of beating equivalent to 65 deg. to 80 deg. Schopper-Riegler, from which parchment paper or grease proof paper can be produced. If it is desired to produce a thicker paper the cellulose is heated to about 30 deg. C., but not above 40 deg. C., before it is delivered on to the paper machine wire.—A. P.-C.

Elimination of Silica from Black Liquor. A. Thiriet assignor to Papeteries Navarra. Can. pat. 284,259, Oct. 23, 1928.—Black liquor is treated with carbon dioxide or sodium bicarbonate, or both, at a temperature of 15 deg. C. so that the dissolved silica is precipitated. The silica precipitate is separated and the carbon dioxide is recovered from the solution by heating.—A. P.-C

Residual Oils in Cellulose Manufacture. Oel und Fett-Chemie G.m.b.H. Fr. pat. 643,853, Nov. 15, 1927.—The oils are separated into their two principal constituents of fatty acids and resin acids by distillation under a high vacuum (4 min.) until the resin acids begin to distil.—A. P.-C.

Comparison of the Zennstrom and other processes used at the present time for the production of paper pulp and by-products from maritime pine and other resinous woods. R. Riviere Papier 32, 289-291 (March 1929).—A brief discussion of the profits to be made by the Zennström recovery process which consists essentially in recovery of methyl alcohol, rosin, spirits of turpentine, sulphate of ammonia and lignin by a distillation of the black liquor, the details of which are not disclosed.—A. P.-C.

Recovery of Soda Black Liquors. Raymond Fournier. Papeterie Special No., 228-240 (1928).—A discussion of the economic advantage of black liquor recovery, illustrated by means of an example of the recovery of black liquor from the cooking of straw.—A. P.-C.

The Electro-Natron Process for the Regeneration of Sulphate Black Liquor. F. Wallenberger. Papier-Fabr. 27, 81-3 (1929)—An exptl. plant is under construction to test this patented pro-

cess, which is basically as follows: The black liquor is treated under suitable conditions with HCl, whereby the organic matter is pptd. in filtrable form and all the S driven off as H_2S, which is collected. The filtered liquor contg. NaCl is electrolysed, giving H and Cl gases and NaOH soln. The former two are burned to give HCl, which is returned to the process, while the H_2S previously liberated as absorbed in the caustic soln. to form fresh cooking liquor. Losses, which should be small, are made up with NaCl and S. Special advantages are, avoidance of odor and of lime sludge formation. Sulphates in the liquor might prevent successful electrolysis.—R. H. D.

Treating Strawboard Waste. J. T. Travers assignor to Travers-Lewis Process Corp. U. S. pat. 1,699,257, Jan. 15, 1929.—Waste such as the fluid wastes from strawboard manufacture is first subjected to the action of calcium sulphate and calcium hydroxide, the precipitated material is permitted to settle, the effluent is removed and the removed effluent is treated with a mixture containing monocalcium phosphate (such as a mixture also containing waste cement dust and ferrous sulphate) in order to effect coagulation.—A. P.-C.

Regeneration of Sulphur Dioxide and Soda from Waste Liquors from the Sodium Bisulphite Cooking Process. P. A. Barbou, Fr. pat. 628,775, July 5, 1927.—The waste liquor is treated, either in open containers or in autoclaves, with alkaline-earth bases to form caustic soda, an organic sodium compound and an insoluble alkaline-earth sulphite; the liquor is then treated with a bisulphite to form sodium sulphite or bisulphite, with precipitation of the organic matter in the form of organic metallic compounds corresponding to the bisulphite used. The alkaline earth sulphites obtained as above may be converted into bisulphite by treating the separated sludge with sulphur dioxide; while the organic metallic compounds may be subjected to destructive distillation.—A. P.-C.

Machinery

Paper Machine Suction Box. Hroch. Fr. pat. 649,949, Feb. 27, 1928.—In suction boxes consisting of two rolls extending across the width of the machine and driven by a third roll placed under and between the two upper rolls, wear of the machine wire can be practically eliminated by driving the rolls at the same peripheral speed as the wire; but as the upper rolls are placed at a relatively considerable distance apart, the wire has a tendency to be drawn in by the suction and sag, resulting in excessive strain and premature wearing out of the wire. In the present invention this is eliminated by providing a smaller roll between the two upper rolls, also riding on and driven by the lower roll.—A.P.-C.

Paper Machine Rolls. S. E. Akre. Fr. pat. 651,007.—The invention consists in a flexible doctor blade, and several methods of constructing and mounting it are described in the specifications. —A.P.-C.

Removable Fourdrinier Paper Machine. A. Aldrich and E. E. Berry assignors to Beloit Iron Works. U. S. pat. 1,700,301, Jan. 29, 1929.—The machine is provided with a cantilever type couch roll, which is adapted to be supported from one end to permit the insertion of a loop of the wire over the other end.—A.P.-C.

Wire Cleaner and Washer. V. Antoine. Belg. pat. 351,609, June 30, 1928.—Two or more steam nozzles connected to flexible steam pipes are mounted so as to be displaced at will across the width of the machine to direct the steam on any given point of the wire.—A.P.-C.

Felt Cleaner. V. Antoine. Belg. pat. 351,379, June 30, 1928.—the felt is passed over a suction roll.—A.P.-C.

Paper Machine. R. Collins. U. S. pat. 1,701,226, Feb. 5, 1928. —A suction roll is placed in contact with or adjacent the suction couch roll, and a press roll is provided below this suction press roll to iron out or finish the lower side of the sheet before it passes to the second and third presses. This construcion allows easy access to all parts of the machine, and the paper in making passes in a straight line through the presses to the baby drier and drier section without reversing at the last press. It is claimed that this construction eliminates the excessive stretch that commonly occurs between the couch roll and first press.—A.P.-C.

Compound Paper. J. R. Happer. Eng. pat. 304,863.—In the manufacture of compound papers, the sheets to be united are subjected to vaccum while they are in contact with each other, at least one felt pssing through the press rolls with the combined sheets. The press by which the sheets are united may consist of a plain top press roll and a bottom suction roll. A vacuum box or roll may be applied below the felt in front of the nip of the press. Both felts may pass between the rolls, which may be plain, a suction box and suction roll being mounted in front of the press.—A.P.-C.

Apparatus for Removing Air from Dryer Cylinders. Lassberg. Papier-Fabr. 27, 33-9 (1929)—Data are given illustrating the fact that O, CO_2, etc. dissolved in boiler feed-water may accumulate in paper-machine dryer cylinders and elsewhere leading to decreased efficiency. The Lütchen air remover (construction not described) removes this trapped air satisfactorily.—R.H.D.

Grinding and Crowning of Rolls. Joseph Stuart. Lobdell Car Wheel Co. Paper Mill 52, No. 15, 22, 26 (April 13, 1929).—A general discussion of the importance of proper grinding and crowning of press and calender rolls.—A.P.-C.

Asbestos Dryer Felt. C. L. Chamberlin. J. N. Hill and Co., Philadelphia, Pa. Paper Mill 52, No. 19, 18, 26, 33 (May 11, 1929). —A discussion of the requirements for dryer felts on paper machines and of the advantages of the Asten asbestos dryer felt for fulfilling these requirements.—A.P.-C.

Importance of Better Rolls Rapidly Becoming Evident. Anon. Paper Trade J. 88, No. 19, 64-65 (May 9, 1929).—A brief discussion of the requirements which have to be met for paper rolls for modern high-speed printing presses.—A.P.-C.

Paper Machine Control Equipment. F. M. Roberts. General Electric Co., Schenectady, N. Y. Paper Trade J. 88, No. 14, 52-53 (April 4, 1929).—A drive consisting of two alternating-current, adjustable-speed motors proved satisfactory for Harper machines making crepe paper. When it was desired to make flat tissue on the same machine, the inherent regulation was not good enough without some additional speed-regulating equipment to hold constant the relative speed between the two motors driving the wet and dry sections of the machine. The regulating equipment finally chosen for his service, and which gave satisfactory results consists of a standard General Electric Co. paper-machine type of speed regulator, arranged to work on the brushes of one of the motors. This regulator is described—A.P.-C.

Wire for Paper Machine Cylinder Rolls. A. Elsenhans. U. S. pat. 1,707,757, April 2, 1929.—The warp is made of strong, tough, non-rusting steel and the weft of lower quality, more easily bendable, non-rusting material.—A.P.-C.

Calender Doctor Operating Means. E. E. Berry and F. W. Lodding assignors to Rice, Barton and Fales, Inc. U. S. pat. 1,704,853, March 12, 1929.—The doctors are supported on a vertical guide along one side of the machine. At the end of the guide is a solenoid which operates a vertical rod to which are connected a series of handles, each connected with one doctor and detachably connected with the rod.—A.P.-C.

Rubber Coverings for Paper Machine Press Rolls. Ivan Rollin. Paper 32, 179-186 (Feb. 1929).—A discussion of the importance of selecting rubber of the proper hardness and elasticity for paper machine press rolls, according to the operating conditions of the paper machine. The hardness is best determined by means of the "durometer;" this consists essentially of a vertical stem having a cross section of 4 sq. mm. at the base and weighted with 2 kilos (equivalent to 0.5 kilo per sq. mm.) which is placed on the rubber to be tested, the depth of pentration being read directly on a dial.—A.P.-C.

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Possibilities and Dangers in Mergers*

By Arthur Andersen[1]

In the past few years increasing attention has been given to the matter of mergers, consolidations and acquisitions, not because such combinations are any new thing in business, but because circumstances have made them more feasible and more readily accomplished. The general attitude toward mergers has been so favorable that it is often assumed that any merger is desirable and advantageous, just because it results in larger operating and distributing units. Such an assumption is dangerous. In any proposed consolidation there are factors both favorable and unfavorable, and no analysis on the basis of general theory alone will answer the question of whether probable advantage outweighs possible disadvantage.

When any consolidation is proposed, it is customary to prepare fairly complete statements of results of operations and financial position of the constituent companies and to set up pro forma combined statements, picturing the results which have been attained in operations and which will obtain in the way of assets, liabilities and capital structure. Important as such a picture is, it cannot be accepted unquestionably as an indication of what will take place when the actual new business unit is functioning as a single entity. The factors of management, markets, methods and men all will have changed and the history of the future will not be directly comparable with the history of the past.

Result of Obvious Examples

The belief that mergers are inevitably beneficial is perhaps the result of many obvious examples but also may be due to the psychology of this country in admiring anything huge. Yet a large organization has much the same susceptibility to defective operation as has the small business, and in addition has potential weaknesses peculiarly its own. Of course it has strengths just as much its own, which may offset some weakness but which do not eliminate the chance of weakness. In fact, pursuance of a merger policy may in itself be a great weakness unless the greatest care and intelligence are used, in that there is temptation toward too rapid a rate of expansion. Properties may be added one after another too quickly to allow for proper control and coordination, resulting in an industrial indigestion which is highly uncomfortable and may possibly be fatal. A study of the history of some of our post-war mergers will illustrate this point.

When several different businesses are merged, a major operation is performed. If it is well performed, the intent and result is attained of eliminating all of the various individual weaknesses and retaining all of the numerous individual strengths, plus the added advantages possible only because of increased size. It is rare for this perfect result to be secured, for many recent mergers have been based on financial considerations rather than on careful economic and industrial analyses, and even at best there are human faults and human errors to deal with, which modify theory and lead to practical compromises of action. Nevertheless, the period of consolidations which has just been experienced has a tremendous value, not only by reason of the impetus given to this trend, but also because the results attained will serve as examples for further study, analysis, and test.

It has been stated that there are certain basic advantages inherent in mergers and consolidations. The first thought naturally is that of the "mass" principle of operation. Sheer size is of course, possible through growth from within, as is demonstrated by the Ford Motor Company, by Sears, Roebuck & Co., by many of the larger banks, and numerous other manufacturing and merchandising institutions. It is more easily and rapidly attained, however, by consolidations, and this principle has been fairly actively applied over the past fifty years.

Idea of Mass Operation

The idea of mass operation usually applies to the savings possible through large volume purchasing and large volume production. The latter implies the spreading of fixed charges in factory and administrative expense over a greater number of units of product; and it is the reason for the economies possible in volume purchasing, since it in turn passes back mass production to the vendor. It also usually passes back a further element of assured demand, which can result in savings through uniformity of operation during the year and through elimination of selling expense. As a matter of fact, it may be doubted whether the "mass production" advantage is an outstanding factor in these huge consolidations due to the tendency to diminishing return. That is, limitations of size of the manufacturing plant forced by limitations of supervisory control, labor supply, and other factors give the huge corporation little advantage over the merely large business. There may be some advantages in mass purchasing, however, though geographical separation of operating units limits this to some extent.

Mergers are consummated usually for some one primary purpose, as in the case of "vertical" integrations which look toward control of raw material and "horizontal" integrations, which as a rule are aimed at improvement in either distribution or production. The "vertical" type of structure in its highest development would aim at ownership and operation of basic raw materials, perhaps in the form of coal, and ore supplies, or cocoanut groves, or linseed mills, oil wells, timber tracts, etc. It might regulate perhaps the movement of such materials over its own railroads

* From N. A. C. A. Bulletin.
[1] Arthur Andersen & Co., Chicago, Ill.

or steamship lines. It might, operate processing or refining plants, blast or open-hearth furnaces, sawmills, flour mills, and so on. The purpose of such control is usually two-fold, first, to insure continuity of supply without the possibility of exorbitant costs and second, uniformity of quality of raw materials used.

Advantageous Position As Buyer

As a corporation becomes large it occupies an advantageous position as a purchaser of material, although as it becomes still larger it may be at some disadvantage since its proportionate use of raw material is so great and since its need of uniformity of operation renders it vulnerable to any interference with its material supply. If the large corporation controls its raw material operations, it may institute economies not possible to any one of a number of material suppliers, applying a merger advantage to a preliminary stage of its processing and hence further reducing the ultimate product cost.

The true "vertical" merger of course goes beyond the point of control over raw materials and intermediate and final processing, for it also aims at control over final distribution of product. Perhaps the best illustrations of this form of consolidation are the well-known ones of Standard Oil, U. S. Steel and Ford. Other types of organization effected through mergers are the "horizontal" and the "circular" consolidation. The former involves the grouping together of various businesses making practically the same product and was the original form of General Motors. The latter is the group of businesses making allied or supplementary products, usually having the same distribution outlets, and well illustrated by the General Foods and Standard Brands consolidations. The present General Motors' policy which results in products such as "Frigidaire" and radios, and an interest in aircraft, also follows this "circular" principle.

One operating advantage which is confined largely to consolidations is that of having one plant devoted entirely to one product. In the ordinary business, manufacturing complexity, and therefore, inefficiency, is introduced by the production of several distinct products in one plant or by producing a wide variety of sizes, styles, and models of a given product which is occasioned by the desire for diversification or the necessity for variety. Where a number of businesses in the same industry are merged, it is often possible to rearrange operations so that one product comes from one plant, another product from a separate plant, and so on. It may even be possible, where there is only a basically single product to segregate either sizes, styles or models by plants, or to segregate operations by plants. For example, where each plant would have the departments of stamping machine shop and assembly a combination of plans not too widely separated might permit one plant to be devoted entirely to sheet and metal work, another to machine operations and products, and another to final assembly and shipping.

Research and Development Work

It is obvious that the large corporation has a positive advantage in its ability to support research and development work on a much broader scale than can be afforded by the small concern, a familiar example being the "Proving Grounds" of General Motors. Not only can more money be allowed for these purposes but the actual scope and trend of research can be such as to lead to revolutionary developments. The apparently theoretical science and almost detached experimental attitude of such men as Langmuir, Coolidge, even Steinmetz and Jewett would not be possible in a small situation where the demand would be for immediate, provable results. It is not entirely a matter of permissible expense but also one of permissible time. The small business does not have a long life expectancy while the big corporation believes in, expects, and practically works toward the achievement of a long continued existence. Moreover, it is often possible in the large business to make practical tests impossible to a small one. For example, the General Electric Company could afford to have a considerable number of electrical refrigerators in the hands of the public for three or four years as a field test before it began actively and commercially to produce and sell them. The A. & P. stores can try out new merchandise or merchandising ideas or arrangements in several units over a period of months or years, keeping test records of results, with no disturbance of general plans, where the small business might not even survive such a test of new methods.

A further reason for consolidation lies in the elements of patent and process control. In general, this is not the primary or sole reason, but may be a contributing influence where other advantages exist, though there are some consolidations, such as the Radio Corporation of America, where this constitutes the main purpose. A patent has been defined as a license to litigation and its usual strength lies in the unwillingness of any other company to invite the exercise of this license. In most cases, compromises are effected where there is actual contention or patent interference, such compromise being in the form of cross licensing, patent pooling, royalty agreements, etc. In some few cases, acquisition of the infringing business has been brought about either after adjudication of a license suit or during the process of the suit. Aside from patent situations as a basis for merger, a strong patent position may make a business very desirable of acquisition by some other company from the viewpoint of product diversification. The same condition applies to a business having a well guarded or a well developed manufacturing process. In any merger proposal, it is essential that the facts regarding patents be clearly known for there are occasional situations in which this will have a bearing on acquisition price or on economic desirability.

Involving Sales

It may be said that all of the preceding advantages have a bearing on manufacturing or production. Another distinct field for consideration is that involving sales. To this apply the factors affecting prices, selling expense, distribution methods and facilities, and exploitation of trade name. Since the most trying of present industrial problems lie in the field of distribution, it can be assumed that many of the present day consolidations are promoted with a view to the corrections and advantages possible through the merging of businesses in the same competitive line.

In a recent article by Mr. Harry A. Toulmin[1], the following comment is made on price trends in merger situations: "In the sixty lines of manufacturing examined, twenty-six were those including mergers and twenty-one were without mergers. In the merger group, prices rose from 19 per cent to 28.8 per cent as against 110.6 per cent during the same period for the non-merger group. Where limited mergers were present in a third group, average prices rose 7.7 per cent for the same period.

Analysis of the figures of many of the large corporations reveal that there is decided evidence of a trend toward a lower ration of profit to sales—in other words, lower prices have passed on to the public the financial benefits of consolidation and even more. Whether this is deliberately an attempt to induce greater economic consumption by reason of lower prices and broader market, or whether it is the result of more closely determined costs and more carefully calculated fair returns on capital invested, or only the result of competition between giants, is a matter of speculation. Certain theories may be developed, such as assuming that the larger businesses must have good records and information, therefore are likely to be well posted as to costs, and that hence the whole trend of business is toward a smoothing out of price irregularities, toward more uniform percentages of profit, and toward price lowering rather than price cutting.

One effect of consolidations on prices normally is that the creation of a huge and fairly dominant company in an industry, operating with certain definite economies and having a fair knowledge of costs, tends to stabilize the industry practices, to

[1] "Merger Makers Must Meet These Tests," Forbes, February, 1930.

eliminate the weaker concerns, to prevent extremes of prices, and to minimize destructive price cutting.

Reduction in Selling Expense

Perhaps the one result of merging several companies which is given the most attention and which is the main factor in promoting consolidations, is that of reduction in selling expense. The general theory is that the administrative sales office can supervise the sales effort of a greater number of men and can spread a fixed expense over a greater volume of sales. A secondary theory is that one salesman can handle several related sales products with very little more effort and time than he can handle one, provided the sales outlets are identical. A third point is the elimination of duplicate—perhaps triplicate or quadruplicate—sales personnel in identical territories. Naturally, these theories do not work out one hundred per cent, but they are basically sound enough to show a benefit in most instances. It should be calculated normally, however, that the immediate effect of consolidation from such a sales viewpoint is a decline in the sum total of sales of the businesses joined. This is due to the cross-transfer of customer grievances, to some disinclination on the buyers' part to be solely dependent upon one source of supply, perhaps to less intensive sales effort, and similar factors.

The condition may be encountered by the combined management that the unsatisfactory reaction of salesmen prevents full realization of theoretical advantage. For example, a salesman on commission may have been earning $6,000-$7,000 annually. Given a more complete line of products and with some competition eliminated, he might, on the same commission basis, be able to make $12,000-$15,000. Yet often the effect is that he slows down in sales effort, decreases his time on the road and is content to sell only enough goods to earn $7,000-$8,000. The remedy of decreased commission rate is dangerous, and the remedy of decreased territory removed much of the sales benefit sought. The point to be observed is, that it is unwise to calculate too optimistically the possible advantages which appear inherent.

Control Over Distribution

The elements of reduced selling price and reduced selling expense are involved in another objective of large enterprises, that of *control* over distribution. In the past the jobber or independent agent had a real place in our economic structure and the question of his status is still sufficiently unsettled to be the subject of open discussion. In the past, few manufacturers were able to afford the attendant expense of selling either to the retailer or ultimate consumer. The details of seeking a thinly scattered market, of handling a multitude of small transactions, of carrying large stocks and of giving adequate immediate service over large territories could only be economically cared for by the grouping of numerous items which went to the same ultimate sales points. This distribution function will always remain, but the change lies in the placing of this function. Development of chain stores has resulted in a concentration of multitudes of small purchases into fewer groups and larger purchases so that the chain system central purchasing department and warehouses supply the jobbing function. Logically then, the chain system insists on buying directly from the manufacturer. On the other hand the consolidation of manufacturers often is aimed at creating a wide diversity of product and great volume of sales and the corporation, through branch offices and branch warehouses, is fully justified in claiming the jobbing function. Here, therefore, is a conflict of consolidations and of basic policies. Both are actuated by the same motive of economy of total operation but the manufacturer has the additional motive of securing control over selling effort. If he is content to let the chain merchandiser assume the jobbing function, he may soon find himself in a badly dependent condition. Considerable percentages of his output will go to a few principal customers; prices may be dictated by the chain; even the quality, type, design, and nature of his product may be specified by the outside selling organization.

Partly from the viewpoint of assuming this distribution function, but also for reasons of quick service, accessibility of material, flexibility of labor market, etc., some consolidations are guided by the acquisition of geographically diverse businesses. Factories in the east, middle west, and west coast are coming to be expected of a concern doing a national business, and plants in Europe, Africa, and China are not unusual to international organizations. This imposes difficulties in administration, but these may be far offset by advantages in distribution and service.

The Element of Diversification

The element of diversification of product through consolidation has been mentioned in reference to the distribution problem. This sometimes works out in the sense of producing a broader line of a given product—increased number of sizes, styles, models, or qualities—or in several products which are allied from the viewpoint of sales outlet. Thus the General Foods Corporation and Standard Brands produce a varied line of food products all of which are sold to the retail grocery stores, delicatessens, and food shops. General Motors and Chrysler have a wide variety of what is basically one product. Then there are companies having a list of products which are associated either because use is made of the same basic raw material or because manufacturing processes are similar. This factor explains why General Motors can make "Frigidaire" and radio sets and why Glidden produces paint, type metal, battery plates, and margarin.

There is a merchandising advantage, related to the matter of diversification of product, in the acquirement of a minor company by one with a well-established trade name. Then the lesser known product may be sold under the well-known brand, profiting from its prestige, perhaps to secure a higher selling price or else a greater volume of sales. The only requirement is that similar quality be maintained in the newly acquired product to that of the old.

In addition to the selling and manufacturing advantages, it is probable that the greatest reason for diversification is broadly financial. As corporations become financially large with high public participation in capital, the elements of continuity of earnings and security enter in more strongly. If operations are confined to only one industry, it is possible and even probable that earnings will show considerable variation between years. If two or more distinct industries are served, these cyclic fluctuations tend to be minimized and the business is more nearly subject to broad economic and industrial influences.

Financially, also, the point must be considered that as the result of size comes considerable ability to secure capital for further expansion. Size permits listing on the stock exchanges, creating a more or less permanent market for securities as warranted by increased earnings or as necessary for further acquisitions.

Reduction in Administrative Overhead

Certain other advantages inherently possible as the result of consolidations are more general in nature and are fairly well recognized. The first is, of course, the reduction in administrative overheads; salaries of officials (while actually greater) are spread over such an increased sales volume that their ratio as an expense item is considerably reduced; the functions of purchasing, accounting, traffic, credit, etc., may be combined for the several entities and their cost ratio for personnel thereby reduced; and office space and similar expenditures may be reduced. The second point is the general improvement in management which may be secured through the higher quality of personnel. A process of retaining the best abilities of various units in important administrative positions or of seeking outside for more capable executives permits an increased effectiveness of all functions not possible to a smaller organization. A

third general advantage is more intangible but may be equally important and that is the improvement in goodwill. It may be created in part by the larger advertising and sales programs which are possible, by reduced prices which result from passing on a portion of savings to the public and by a definite, business-like policy of giving service.

Mergers are profitable as they invest in public service. Public confidence and goodwill are essential and this fact is generally recognized by most of our larger corporations at the present time. The old fear and suspicion of the public for huge enterprise was based primarily on the distrust of monopoly, and the memory of "trust busting" days is still recent enough to give pause to any adoption of policies which would tend to arouse any thought of the old practices which were once prevalent.

Considering only the foregoing factors, it would seem that consolidation is a natural cure for most business ills. The trouble, of course, is that consolidation merely creates the possibility of improved conditions and that management must formulate the policies and execute the moves to take advantage of these possibilities.

Blocking or hindering the achievement of desired ends is the ever existent human error and human weakness. As a result, consolidation may give rise to positive disadvantages. The most common of these is the obverse of one of the most generally recognized advantages—that after consolidation, general overhead may be created which is added to the unmodified overheads of all of the former individual businesses, handicapping the combined structure with an unanticipated expense burden. This may be brought about several ways. Thus, perhaps, none of the administrative personnel is dropped and many salaries are raised because the feeling is general that the large business should bear larger remunerations. Because of some desire for centralized control, additional records, accounts and systems are introduced. The whole thought is toward being a big business rather than an economical business. Often it takes one or two full years of operations staggering under excessive expense before sound viewpoints are restored. In similar fashion there is ofter the desire to set up very elaborate and expensive central sales and administrative offices. One instance is recalled of a force of 200 draftsmen working in office space which was rented at a cost of $3.00 per square foot per year, these men for the most part having been brought in from plant offices where the square foot cost approximated $0.40 per year. The establishing of central offices in some city such as New York or Chicago as against former plant offices in Peoria, Kalamazoo, Utica, or Springfield means increased rates of pay for everyone from comptroller to office boy, and the expense difference must be closely weighed against the economies of centralized work and the advantages of accessible and respect-commanding location.

Loss of Individual Initiative

A much less obvious danger, but one no less powerful, is that in the process of organization revision there may be an almost complete loss of the individual initiative which has been responsible for the success of the predecessor companies. Naturally, this may come about through the actual fact of consolidation when former owners sell out completely to the new corporation and retire from business, but it is also possible when most of the former personnel is retained. If the old managements remain, but do not hold stock in the corporation, management interest is lost. The remedy of creating profit-sharing contracts is feasible but dangerous. They may drain the expected earnings of the new business or they may be set too low in view of the general financial results attained.

Moveover, even if all financial interests are properly cared for, an attempt to centralize the management and control may remove from the operating units the elements of close personal supervision that have been the custom for years. With the various principal executives grouped in offices remote from the plants, various plant inefficiencies may develop, operating difficulties arise, and employment discontent occur which proceed unchecked.

The same conditions of single control instead of former multiple controls and the consequent enforced contact of men previously more used to working alone leads to almost unpredicatable results. There is very often an almost political jockeying for power. The qualities of strength and dominance in some one man which may have brought about the merger and which may have seemed admirable during the process of merging may be interpreted as arrogance, stubbornness, or selfishness after the deal is completed. Where the organization may have been pre-planned to control adequately the various factors of management, dissatisfaction may lead to withdrawals which wreck the proposed plan. There may be disruption due to clashes of personal temperament or there may be trouble due to the desire of each former executive to regard his unit as the most important with the best personnel and the most effective policies and systems. The desire to elevate former employees to higher positions often causes as much trouble as any desire for personal prestige.

Human Factor May Cause Trouble

Even where there are few elements of discord, the human factor may be operative to cause trouble. That is, the new company is larger than any former single unit; its problems are greater and its policies are different. Perhaps no one in the predecessor companies is adequately equipped in experience and viewpoint to be fully capable in his new duties. It has often been said that the most critical point in a company's history is when it is too big for a small business and too small for a big business. But at least the management is given a period of time to grow in experience to meet the complexities of a growing business. Under the method of consolidation, there is no time, experience, or preparation given for individual growth. The Executive of a small business one day is part of a national organization the next. and this is true of all who have any general administrative function.

Not only must the business contend with inexperience of personnel, but as has been indicated, with the sudden inflations of personal importance. Too often men do not apply fully their given abilities to a new situation, partly because individual equity is diluted, partly because individual responsibility is narrowed in scope, but partly because they feel too important to work hard.

Another limiting factor of human initiative sometimes applies where the former executives have made considerable money in the market through enhancement of stock values by reason of the merger. To many it may have been a new experience in the field of easy money. Their attention becomes diverted from the operations of producing and selling goods to the operation of buying, selling, and manipulating stock. Eventually the business suffers from lack of attention and, of course, stock profits pass out of the range of manipulation.

It is evident that some few of these potential personnel weaknesses are inherent only in consolidations, but the majority are possible also where large size is attained independently of consolidations. In other words, very often huge size in a corporation leads to personnel weaknesses. This is contrary to the vague general belief that mere size is a guarantee of strength. In a naturally growing organization it is well now and then to take inventory of the personnel situation in relation to the increased scope and responsibilities of the various executive and administrative heads, and perhaps to make shifts in organization plan and replacements or additions of personnel in line with the growing needs of the business.

Personnel Fitness

In cases where largely increased size will result from mergers or acquisition, it is vital that the questions of personnel fitness,

adaptability, temperament, etc., be given the most careful scrutiny. In fact, it might well be the rule that no final merger steps be taken until an analysis of personnel and organization, present and proposed, has been made and the results either approved as satisfactory or else completely sound revisions developed to take care of the potential weaknesses revealed thereby.

All of this may sound pessimistic, but fortunately all of the potential dangers rarely occur in any one given situation and most of them are correctible if recognized. Usually, too, elements of outside viewpoint and outside control have been introduced in conjunction with the financing of the consolidation which are reasonably alert for evidence of personnel and organization weaknesses. The point which may be noted is that the potential advantages inherent in consolidations are mainly in different fields from the possible disadvantages and that neither tend to modify or affect the other. An economically sound consolidation may be thoroughly wrecked by weakness of personnel and it is not sufficient to consider only the plus or only the minus side of the question when any merger is contemplated. Nor is a careful pre-survey alone sufficient in safeguarding against disaster since either unsuspected strength or weaknesses may come to light after consummation of the deal.

The factors of advantage and disadvantage which have been pointed out perhaps may seem theoretical in nature, yet practically all have been observed in operation in one situation or another. Whether any given proposal is advantageous may be fairly well determined if time is allowed for a careful analysis of the situation. Each company involved may be studied as to individual characteristics, the industry factors may be determined and a fair picture may be drawn of the probable results to be secured by the process of consolidation. Inherent advantages are seldom obscure and many of the possible weaknesses may be anticipated and guarded against.

Price Cutting

Some much broader viewpoints must be taken, however, in considering the general feasibility of mergers or in attempting to indicate the types of industry or the types of situation in which mergers will be desirable. For example, in an article by M. A. Hadden[3] it is stated that in 79 per cent of 850 companies questioned, price cutting is listed as a major problem of the industry. Ten industries are listed in the order of the intensity of this factor as follows:

1—Chemicals, 2—Textiles, 3—Lumber and wood products Brass and bronze products, 4—Stone, clay and glass products, 5—Printing, 6—Food products, 7—Paper, 8—Iron and steel products, 9—Leather, 10—Machinery.

Since consolidation has in general an effect of price stabilization, it might be expected that consolidations would be beneficial in these industries in the order of their listing.

Another broad test that is worth thinking about is that advantages of mass production and mass merchandising best apply where the element of personal supervision and personal service are least necessary thus industries in which production may be highly automatically mechanized, such as the automobile business, steel production, soap production, oil refining, textile working and some phases of food preparation are most susceptible to successful consolidation. Where merchandising is largely a matter of price, as in the Kresge, Woolworth, Grant, etc., stores, large scale merchandising is feasible. Where service also must be considered to some extent as in the A. & P., Penny, Kroger, etc., stores, some provision usually must be made to secure it through local management interest, the real merger advantage lying in large scale purchasing. In large department stores handling quality merchandise, in specialty shops, etc., where personal service and contact is predominent, large scale and widely spread operations are rarely feasible and hence merger advantages are the minimum.

[3] Does Competition Fix Prices? Bulletin of the Society of Industrial Engineers, Jan., 1930.

Logical Merger Opportunities

In seeking logical merger opportunities, the first thought is of an industry in which there is a large,continuous demand for the product, where great mechanical equipment is essential, or where an exact standardization of procedure is possible under all conditions. On the other hand, some industries already may be consolidated to the point where further merging is difficult. The result of a rather broad analysis, considering most of the factors involved, indicates that the best present merger possibilities lie within the following industries:

1—rugs, medicines, and cosmetics. 2—Office and business equipment. 3—Food products. 4—Automobile parts and accessories. 5—Chemicals. 6—Electrical equipment. 7—Machinery and equipment. 8—Railroads.

In many of these industries the necessities for consolidation are found in consideration of the problems of merchandising which are becoming especially critical as regards the drug and food lines.

It is unlikely that the change in status of the stock market will create any great change in the status of mergers. It is true that many pending mergers were temporarily or permanently abandoned as the result of the market break of which Sears-Penny, Ward-Hartman, and National City-Corn Exchange may be noted as typical. But many are only delayed and many new combinations will be proposed. There is just as much reason and perhaps even more reason for carring out mergers in difficult times as in prosperous times and the main difference will lie in the financial means adopted. In the past year or so it has been possible to finance publicly and many acquisitions have been for cash. In the future there will, of course, be many sound security offerings to cover economically worthy consolidations and many will be effected also on an exchange of stock basis.

One fact which may tend to promote a large number of smaller acquisitions in the current year is the exceedingly strong liquid capital position of many of the larger businesses, resulting from the sizable earnings of the past few years and in many cases from the correction of capital structure made possible by the easy financing conditions of the recent bull market. Many corporations appear even to be over-financed and may acquire smaller businesses just as a means of securing adequate return on available capital and of diversification of product. The stock market deflation has largely increased the possibility of such small acquisitions on a favorable basis.

Great Problems Barely Recognized

While many industrial situations have been improved as the result of mergers already accomplished, it would seem that many of the corrections have been palliative rather than permanent or basic. The great problems of distribution barely have been recognized. It would seem that the ultimate logical trend is that toward a distribution of product directly from producer to consumer and various moves have been made, perhaps unconsciously, toward this end. For example, Drug, Inc., has 10,000 Rexall stores, 524 Liggett stores and 800 Booth stores and is constantly adding to these distribution outlets; but it also controls factories producing rubber goods, candy, food products, stationery, and a long line of medicinals. It has factories in a dozen cities and retail stores which reach 25 per cent of the population of the United States. The Walgreen chain is continuously adding to its retail drug stores and just as continuously acquiring its own producing sources. Montgomery Ward and Sears-Roebuck have for a long time been controlling much of their own production and are intensively cultivating direct retail store distribution. Many of the chain food stores are seeking control over production which will carry their own brand names.

These moves are most noticeable in the attempt of retail outlets to acquire control over production. At the same time the pressure applied to various manufacturers by the growing strength

or the distributing chains is pointing to a necessity for protection of these producing interests. This may be shown particularly in considering the food chains since their development is greatest. A given producer at present may find that as much as 25 per cent of his output is being taken by the chains at prices which barely absorb overhead. Pressure to secure a price increase is probably ineffective and may even result in loss of an account. The producers look forward to two possibilities—either that the percentage of sales to chain stores will increase to a point where absolute dictation of destructively low prices is possible, or that the chains will develop or acquire their own sources of production. The situation of the producers who are dependent upon sales to chains is none too bright.

Combating This Situation

The apparent present method of combating this situation lies in consolidation of producing units for the purpose of regaining dominance over the distributing units. If a chain wishes to discontinue handling a given brand of canned vegetables, for example, it can find half a dozen other nationally advertised brands which in general will be equally acceptable to the consuming public, or it may introduce its own brand, trusting that this exception will not attract any particular attention and will be carried along by the chain store prestige. But if the producer of a given brand of canned vegetables also controls a brand of canned fruits, of condensed milk, of pickles and condiments, of cheese, of cocoa, etc., then enough pressure can be applied to prevent the store dropping the brand of canned vegetables.

Whether this is only a theory is hard to say, but when Standard Brands are considered producing yeast, baking powder, coffee, etc., or General Foods, with a line of Postum, cereals, coffee, tea, cocoa, cocoanut, syrups, gelatine, tapioca, mayonnaise, cake flour, condiments, etc., it would appear that the principle is at work. These consolidation moves are tentative as yet and there is room for several tremendously large food product mergers. Along with the true food products may be considered those lines which have in part the same food store outlet—such as soaps, toilet papers, matches, ginger ale and other soft drinks. The list of companies which may in the near future be considered for food group consolidations is long and most are nationally known.

The possibility of such huge food group mergers is perhaps only a sort of defensive or intermediate step in line with the ultimate direct-to-consumer trend. Size and dominance of the producing units opposed to size and dominance of distribution chains would lead to a deadlock with retrogressive economic tendencies. Admission of the real trend, on the other hand, would lead to full consideration of the thought of consolidating huge producer with huge distributor. It is not too far-fetched even now to visualize the thought of consolidation between say, Kroger and General Foods, yet both groups are small in size now as compared to what they will attain ten years from now.

The situation as regards food products perhaps has been emphasized as though it were the only line in which such trends exist, but this emphasis is given only because there the trends are already being translated into action and conditions are more nearly ripe for the ultimate move.

Will Carry Far Beyond Present Stage

It is evident that the trends in consolidation will carry far beyond the present stage and that the moves which may be made will write new pages in the records of business economic and perhaps political theory and history. Some of the possible changes are almost staggering in their immensity and one wonders if human ability is capable of understanding and directing the forces which must be created, used, modified and experimented with. The encouraging thought is that what man has done man can do, and that all past progress has been built upon previous progress. Certainly, the coming three decades promise to be as interesting a period of business achievement as have the past three in breeding and nurturing our new race of industrial giants.

Canadian Hydro-Electric Makes New Record

Canadian Hydro-Electric Corporation, Ltd., controlled by International Hydro-Electric System, a division of International Paper and Power Company, produced 218,850,000 kilowatt hours of electric energy in May, a new high record for a single month, and 2 per cent greater than the previous high record for a month, established in April. The May output of the Corporation was 30 per cent over May last year, and over two and one-quarter times that of may, 1928.

The output of the corporation for each of the first five months of this year showed progressively higher percentages of increase over the corresponding months of last year. In the first five months of this year the output of the corporation was 1,008,319,000 kilowatt hours, 21 per cent over the output of the corporation in the first five months of 1929, and over double its output in the first five months of 1928. The output of the corporation in the twelve months ended May 31 was 2,275,481,000 kilowatt hours, an increase of 35 per cent over the output of the corporation in the twelve months ended May 31, 1929.

The output of electric energy of all Canadian central station hydro-electric plants other than those owned by Canadian Hydro-Electric Corporation, Ltd., in the first four months of this year—the latest figures available—was 5 per cent over the first four months of 1929, while the output of the present plants of Canadian Hydro-Electric Corporation, Ltd., increased 19 per cent in the same period.

The output of the plants of Gatineau Power Company, a subsidiary of the corporation, was 14 per cent in the first four months of this year over the corresponding period of last year, while the output of all other central station hydro-electric plants in the Province of Quebec increased 3 per cent in the same period.

In the first three months of this year the Grand Falls hydro-electric plant of the Corporation produced 53 per cent of the entire production of electric energy of all central station hydro-electric plants in the Maritime Provinces.

New Northern New York Reservoir

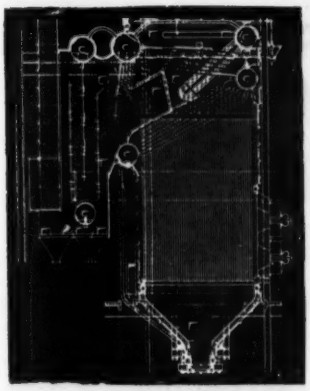
[FROM OUR REGULAR CORRESPONDENT]

CONKLINGVILLE, N. Y., June 28, 1930.—The new reservoir financed by paper mills in Northern New York is to be named Lake Sargent, in honor of E. H. Sargent, chief engineer of the Hudson River Regulating Board. Mr. Sargent has been connected with the organization since 1922 and has been directly in charge of the huge project which involved the clearing of forty-two square miles of territory now flowed by the reservoir; the construction of twenty miles of highway; construction of the huge dam, 1,100 feet long and 110 feet high, and the building of a mile long steel bridge at Batchellerville.

Mr. Sargent is considered to be the foremost engineering authority in the state on water power possibilities of the Upper Hudson and its tributaries and as chief engineer of the board he will have charge of all future projects to be undertaken. The economic benefits of the reservoir that will bear his name are considered to be widespread inasmuch as more than 300,000 horsepower will be added to the hydro-electric development on the Upper Hudson and paper manufacturing concerns are expected to be the chief beneficiaries. The reservoir will also enable paper mills to operate in periods of drought which in recent years has seriously affected operations at certain periods.

Ryther & Pringle Co. Elects New Officers

CARTHAGE, N. Y., June 30, 1930.—At a meeting of the directors of the Ryther & Pringle Co. held June 20, D. W. Sarvay was elected president to fill the vacancy caused by the recent death of George D. Ryther. William M. Fox was elected vice president and Thomas C. Lynch secretary and treasurer. Mr. Sarvay will continue in the capacity of general manager and no change of policy of a radical nature is contemplated.



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WITH
LEAST CAPITAL INVESTMENT and OPERATING COSTS

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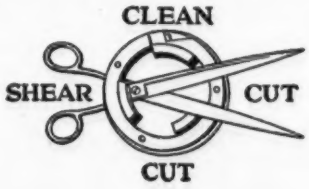
LANGSTON



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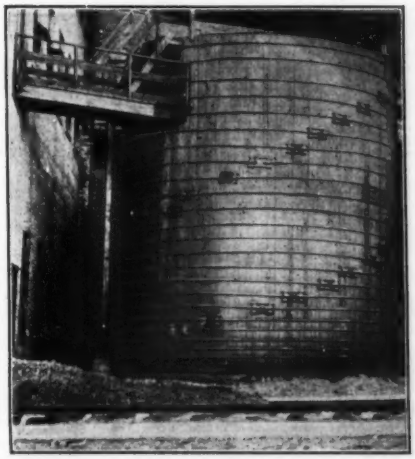

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IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JUNE 28, 1930

SUMMARY

Cigarette paper .....16 bls., 143 cs.
Wall paper .....13 bls., 25 cs.
Paper hangings .....17 bls., 4 cs.
News print .....619 rolls, 269 bls.
Printing paper .....132 cs.
Wrapping paper .....110 bls.
Decalcomania paper .....3 cs.
Colored paper .....32 cs.
Drawing paper .....4 cs.
Filter paper .....25 cs.
Gold coated paper .....5 cs.
Baryta coated paper .....120 cs.
Surface coated paper .....50 cs.
Photo paper .....6 cs.
Writing paper .....50 cs.
Optical paper .....11 cs.
Caoutchouc paper .....6 cs.
Parchment paper .....14 bls.
Card board .....250 cs.
Straw board .....920 pkgs.
Miscellaneous paper .....126 rolls, 307 cs.

CIGARETTE PAPER

British American Tobacco Co., Berengaria, Southampton, 7 cs.
Max Spiegel & Son, Pres. Polk, Genoa, 16 bls.
P. J. Schweitzer, Pres. Polk, Marseilles, 136 cs.

WALL PAPER

Universal Car Loading Co., Dresden, Bremen, 2 cs.
Irving Trust Co., A. Ballin, Hamburg, 21 cs.
Globe Shipping Co., A. Ballin, Hamburg, 1 ble.
F. J. Emmerich, A. Ballin, Hamburg, 5 bls., 1 cs.
——, Ohio Maru, Hamburg, 7 bls., 1 cs.

PAPER HANGINGS

A. C. Dodman, Jr., Inc., Baltic, Liverpool, 4 bls.
Whiting & Patterson Co., Inc., Berengaria, Southampton, 1 cs., 1 ble.
W. H. S. Lloyd & Co., Minnekahda, London, 3 cs., 12 bls.

NEWS PRINT

Perkins, Goodwin & Co., A. Ballin, Hamburg, 54 rolls.
Walker, Goulard, Plehn Co., Stavangerfjord, Oslo, 131 bls.
——, Stavangerfjord, Oslo, 211 rolls.
Majestic Milla Paper Co., Stavangerfjord, Oslo, 138 bls.
——, Argosy, Kotka, 354 rolls.

PRINTING PAPER

International F'd'g Co., E. Francqui, Antwerp, 7 cs.
P. C. Zuhlke, Belgenland, Antwerp, 67 cs.
Perkins, Goodwin & Co., A. Ballin, Hamburg, 25 cs.
F. C. Strype, Rotterdam, Rotterdam, 33 cs.

WRAPPING PAPER

C. Steiner, Rotterdam, Rotterdam, 88 bls.
R. Wilson Paper Corp., Stavangerfjord, Frederickstad, 22 bls.

DECALCOMANIA PAPER

L. A. Consmiller, Bremen, Bremen, 3 cs.

COLORED PAPER

E. Daiber, E. Francqui, Antwerp, 4 cs.
S. Gilbert, Columbus, Bremen, 12 cs.
F. L. Kramer, Columbus, Bremen, 4 cs.
——, Columbus, Bremen, 8 cs.
S. Gilbert, Bremen, Bremen, 4 cs.

DRAWING PAPER

Keuffel & Esser Co., Carinthia, London, 1 cs.
H. Reeve Angel & Co., Inc., Minnekahda, London, 3 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Minnekahda, London, 21 cs.
A. Giese & Son, Reliance, Hamburg, 4 cs.

GOLD COATED PAPER

F. Murray Hill, Dresden, Bremen, 5 cs.

BARYTA COATED PAPER

J. H. Schroeder Banking Corp., Columbus, Bremen, 27 cs.
Globe Shipping Co., Columbus, Bremen, 102 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Belgenland, Antwerp, 41 cs.
Phoenix Shipping Co., A. Ballin, Hamburg, 1 cs.
Phoenix Shipping Co., Reliance, Hamburg, 2 cs.
Titan Shipping Co., Reliance, Hamburg, 6 cs.

PHOTO PAPER

J. H. Schroeder Banking Corp., Dresden, Bremen, 6 cs.

WRITING PAPER

J. Wanamaker, Berengaria, Southampton, 1 cs.
Japan Paper Co., Berengaria, Southampton, 2 cs.
Meadows, Wye & Co., Berengaria, Southampton, 1 cs.
Kupfer Bros., Dresden, Bremen, 30 cs.
Guibout Freres, Majestic, Southampton, 16 cs.

OPTICAL PAPER

Selti Co., Ile de France, Havre, 11 cs.

CAOUTCHOUC PAPER

American Express Co., A. Ballin, Hamburg, 6 cs.

PARCHMENT PAPER

Walker, Goulard, Plehn Co., Reliance, Hamburg, 14 bls.

CARD BOARD

American Express Co., Reliance, Hamburg, 250 cs.

STRAW BOARD

Massa Paper Co., Rotterdam, Rotterdam, 920 pkgs.

MISCELLANEOUS PAPER

P. J. Schweitzer, Ile de France, Havre, 2 cs.
Keller Dorian Paper Co., Ile de France, Havre, 19 cs.
Standard Products Corp., Lafayette, Havre, 226 cs.
The Borregaard Co., Inc., Gripsholm, Gothenburg, 126 rolls.
Public National Bank Providence, Marseilles, 40 cs.
Cohn & Lewis, Mauretania, Southampton, 20 cs.

RAGS, BAGGINGS, ETC.

R. M. Gray, Inc., Ninian, Manchester, 157 bls. flax waste.
E. Mayer, West Arrow, Rotterdam, 175 bls. rags.
Irving Trust Co., Dresden, Bremen, 54 bls. rags.
National City Bank, A. Ballin, Hamburg, 113 bls. rags.
A. W. Fenton, Inc., Rotterdam, Rotterdam, 37 bls. bagging.
P. Berlowitz, Rotterdam, Rotterdam, 123 bls. bagging.
Baring Bros. & Co., Marengo, Hull, 168 bls. rags.
Brown Bros. & Co., Marengo, Hull, 351 bls. rags.
Royal Manfg. Co., Marengo, Antwerp, 129 bls. cotton waste.
Castle & Overton, Inc., Marengo, Antwerp, 106 bls. flax waste.
Van Oppen & Co., Marengo, Antwerp, 136 bls. bagging.
M. Snedeker Corp., Franconia, Liverpool, 69 bls. paper stock.
Bank of New York, Cristobal Colon, Coruna, 45 bls. rags.
E. Butterworth & Co., Inc., Clara, Venice, 67 bls. rags.
Atlas Waste Manfg. Co., Catherine, San Juan, 12 bls. rags.
Darmstadt, Scott & Courtney, Cabo Espartel, Genoa, 55 bls. glue stock; 126 bls. bagging.
Castle & Overton, Inc., Cabo Espartel, Barcelona, 143 bls. bagging.

OLD ROPE

R. M. Gray, Inc., Ninian, Manchester, 7 coils.
Brown Bros. & Co., East Side, Cardiff, 74 bls.
International Trust Co., Dresden, Bremen, 133 coils.
W. Steck & Co., Rotterdam, Rotterdam, 44 coils.
Brown Bros. & Co., Marengo, Hull, 142 coils.
Anglo South American Trust Co., Clara, Trieste, 67 coils.

CHINA CLAY

L. A. Salomon & Bros., Baltic, Liverpool, 40 casks, 399 bags.

WOOD PULP BOARDS

Lagerloef Trading Co., Malaren, Kotka, 411 bls., 110 rolls.

WOOD PULP

E. M. Sergeant & Co., Oscar II, Oslo, 250 bls. sulphite, 50 tons.
——, A. Ballin, Hamburg, 130 bls. wood pulp, 26 tons.
National City Bank, A. Ballin, Hamburg, 154 bls. wood pulp, 31 tons.
Johanson, Wales & Sparre, Inc., Gripsholm, Gothenburg, 1125 bls. sulphite.
Price & Pierce, Ltd., Gripsholm, Gothenburg, 250 bls. wood pulp.
Atterbury Bros., Inc., Stavangerfjord, Oslo, 500 bls. wood pulp.
E. M. Sergeant & Co., Stavangerfjord, Oslo, 300 bls. wood pulp.
International Paper Co., Salonica, Chatham, 1220 cords wood pulp.
A. P. W. Paper Co., Thyra, Sheet Harbor, 7422 bls. wood pulp, 1633 tons.
——, Ohio Maru, Hamburg, 277 bls. sulphite, 55 tons.
Harriman Bros. & Co., Ohio Maru, Hamburg, 670 bls. wood pulp, 100 tons.
M. Gottesman & Co., Inc., Clara, Sebenico, 1680 bls. wood pulp.
Irving Trust Co., Argosy, Helsingfors, 150 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING JUNE 28, 1930

J. H. Faunce, Ninian, Manchester, 63 bls. bagging.
International Trust Co., West Arrow, Rotterdam, 139 bls. bagging.
J. M. Hagy Waste Works, West Arrow, Rotterdam, 56 bls. rags.
Katzenstein & Keene, Inc., West Arrow, Rotterdam, 94 bls. bagging.
Phila. National Bank, West Arrow, Rotterdam, 19 bls. rags.
Nat'l Vulcanized Fibre Co., West Arrow, Rotterdam, 109 bls. rags.
Atterbury Bros. Inc., Malaren, Hurum, 300 bls. wood pulp.
Perkins, Goodwin & Co., Malaren, Gothenburg, 762 bls. kraft pulp; 127 bls. sulphate.
Parsons & Whittemore, Inc., Malaren, Gothenburg, 600 bls. sulphate.
M. Gottesman & Co., Inc., Malaren, Gothenburg, 1218 bls. wood pulp; 1175 bls. sulphite.
J. Andersen & Co., Malaren, Gothenburg, 250 bls. sulphite.
The Borregaard Co., Inc., Malaren, Gothenburg, 304 rolls, 26 bls. paper.
E. J. Keller Co., Inc., West Arrow, ——, 184 bls. rags.
Banco Com'l Italiane Trust Co., Cabo Espartel, Leghorn, 174 bls. rags.
Nat'l Vulcanized Fibre Co., Cabo Espartel, Barcelona, 597 bls. rags.
E. J. Keller Co., Inc., Cabo Espartel, ——, 143 bls. rags.

PORTLAND IMPORTS

WEEK ENDING JUNE 28, 1930

Lagerloe Trading Co., Malaren, Viborg, 170 bls. sulphate; 5425 bls. sulphite.

(Continued on page 70)

Putting Production into *High Gear*

In scores of paper mills whose annual schedules total millions of tons, Dayton High Speed Beaters are famous for their power, endurance and performance. A heavier furnish—faster beating—less jordaning—less power required,—these proven features will put your production in high gear, too. Shown above: Dayton High Speed Beater with cypress tub, 61" dia. by 60" face. Nine of these recently went into a prominent mill, because Dayton specializes on the right beater for the particular task at hand. Years of technical experience—knowledge of paper making—prestige of serving the world's largest mills—these are at your command when you consult this organization.

THE DAYTON BEATER & HOIST CO., DAYTON, OHIO

Eastern Representatives
Mansfield, Bolton & Kent
501 Fifth Ave., New York City

Western Representative
F. H. Godfrey
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DAYTON
High Speed Beaters

Starch—

A SIMPLE change in the manufacturing process often results in a pronounced decrease in cost of production.

Paper Mills use Starch for sizing to produce better and stronger sheets with lower cost of manufacture.

Our SPECIAL PAPER brand, furnished in either Pearl or Powdered form for beater-sizing, increases strength of sheet and gives improved finish.

Our FOX HEAD brand for top-sizing is more economical than all glue-size.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York City

Prompt deliveries made from stocks in
NEW YORK
BOSTON
PHILADELPHIA
CHICAGO

TRADE MARK

End the Waste of Shopping

A buyer can begin at the beginning every time, and buy each requisition separately.

Or he can buy a dye just once, then simply order it each time thereafter . . . *provided he can trust his source.*

For more than sixty years, Heller & Merz have been delivering quality dyestuffs with unfailing service. Who buys from Heller & Merz wastes no time nor money shopping.

HELLER & MERZ CORPORATION

505 Hudson St., New York

Boston
287 Atlantic Ave

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146 W. Kinzie St.

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Factory—NEWARK, N. J.

SOLVAY PRODUCTS

SODA ASH
CAUSTIC SODA

Liquid Chlorine
Contract or Spot Delivery
In tank cars and multiple unit cars.
Write for Prices

SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by The Solvay Process Company
40 Rector Street, New York
Boston · Syracuse · Chicago · Indianapolis · Cleveland
Cincinnati · Pittsburgh · Detroit · Philadelphia
Kansas City · St. Louis · Atlanta

*Trade Mark Reg. U. S. Pat. Off.

Imports of Paper and Paper Stock

(*Continued from page 68*)

Lagerloef Trading Co., Argosy, Helsingfors, 271 bls. sulphite.

Lagerloef Trading Co., Argosy, Rauma, 3470 bls. sulphite, 591 tons.

——, Argosy, Kotka, 450 bls. sulphate, 84 tons.

——, Argosy, Kotka, 2232 bls. sulphite, 372 tons.

NEWPORT NEWS IMPORTS

WEEK ENDING JUNE 28, 1930

The Borregaard Co., Inc., Malaren, Hurum, 1800 bls. sulphate.

Johanson, Wales & Sparre, Inc., Malaren, Gothenburg, 897 bls. dry soda pulp.

NORFOLK IMPORTS

WEEK ENDING JUNE 28, 1930

Darmstadt, Scott & Courtney, West Arrow, Rotterdam, 330 bls. bagging.

BOSTON IMPORTS

WEEK ENDING JUNE 28, 1930

Baring Bros. & Co., Ninian, Manchester, 74 bls. rags; 5 bls. bagging; 70 bls. old paper; 170 bags. hide cuttings.

1st National Bank of Boston, Ninian, Liverpool, 63 coils old rope.

——, Ninian, Manchester, 87 bls. bagging.

Brown Bros. & Co., Marengo, Hull, 297 bls. old rope.

Stone & Forsythe, Marengo, Antwerp, 50 bls. bagging.

E. Butterworth & Co., Inc., Marengo, Antwerp, 88 bls. bagging.

Spauling Fibre Co., Marengo, Antwerp, 891 bls. flax waste.

E. Butterworth Co., Inc., Marengo, Antwerp, 72 bls. flax waste.

Standard Mill Supply Co., Marengo, Antwerp, 119 bls. bagging.

M. Gottesman & Co., Inc., Clara, Sebenico, 2520 bls. wood pulp.

Lagerloef Trading Co., Argosy, Rauma, 960 bls. sulphite, 158 tons.

——, Argosy, Kotka, 2312 bls. sulphate, 418 tons.

——, Argosy, Kotka, 1235 bls. sulphite, 206 tons.

BALTIMORE IMPORTS

WEEK ENDING JUNE 28, 1930

Brown Bros. & Co., West Arrow, Antwerp, 58 coils old rope.

Congoleum Nairn Co., West Arrow, Antwerp, 148 bls. rags.

National City Bank, West Arrow, Antwerp, 131 bls. rags.

Atterbury Bros. Inc., Malaren, Hurum, 450 bls. sulphite.

M. Gottesman & Co., Inc., Malaren, Stockholm, 750 bls. sulphite.

Price & Pierce, Ltd., Malaren, Stockholm, 348 bls. sulphite; 750 bls. wood pulp.

Perkins, Goodwin & Co., Malaren, Gothenburg, 2540 bls. kraft pulp; 1016 bls. sulphite.

The Borregaard Co., Inc., Malaren, Gothenburg, 500 bls. wood pulp; 31 bls. paper.

Parsons & Whittemore, Inc., Malaren, Gothenburg, 150 bls. sulphate; 150 bls. sulphite.

E. M. Sergeant & Co., Malaren, Gothenburg, 1196 bls. wood pulp; 800 bls. sulphite.

J. Andersen & Co., Malaren, Gothenburg, 192 bls. wood pulp.

Pyrites Mill to Shut Down

[FROM OUR REGULAR CORRESPONDENT]

PYRITES, N. Y., June 28, 1930.—The local mill of the International shut down July 1 for an indefinite period throwing about 375 men out of work. There are various conjectures as to exactly what the order to suspend operations means although some residents take an optimistic view and believe that ultimately the mill will again be placed in operation. It is also possible that repairs will be made during the summer although no assurance is given that this work will be carried out.

It is said that employees at the mill have been receiving the highest wage scale of any of the branches controlled by the company. When it was taken over by International the labor union was not recognized as the company employs no union men as such although the wages established prior to that time were maintained. It is thought that a revision may result in the early reopening of the mill.

The mill was started about forty years ago by Potsdam interests and in 1893 after it had been running for a short time it was incorporated as the High Falls Sulphite, Pulp and Mining Company. The mill had a varied existence until it was taken over by the *New York World* for news print purposes. It remained the property of that concern until 1927 when it was acquired by International and since that time there have been many rumors regarding it. The curtailment is the first to occur since it was taken over by the firm.

To Simplify Folding Coffee Boxes

A reduction from more than 100 sizes to 2, in the variety of one-pound folding boxes for coffee has been proposed by the industry and approved by a general conference of all interests. The simplified practice recommendation formulated by that conference is now before the manufacturers, distributors, and users of these boxes, for their consideration and signed approval, according to a statement issued by the Division of Simplified Practice, of the Bureau of Standards, Department of Commerce.

The general conference were unanimous in the opinion that two sizes of one-pound folding boxes, the 4⅛ x 2¾ x 6 inch, having a cubic capacity of 72 3/16 cubic inches, and the 4⅛ x 2¾ x 6½ inch, having a cubic capacity of 78 13/64 cubic inches, would satisfy the normal requirements of the trade.

If approved by the industry, this recommendation will become effective July 1, 1930, for new production; and September 1, 1930, for clearance of existing stocks.

Midwest Supply Building Damaged

DAYTON, Ohio, June 30, 1930.—Fire of undetermined origin caused a loss estimated at $25,000 to $35,000 at the Midwest Supply Company, Hamilton, manufacturers of felts for paper-making machines, and other supplies. The structure was a three-story building constructed of frame and proved easy prey for the flames, once they were started. It is located on North B street. The fire was discovered by employees but spread so rapidly that nothing could be done to check the flames until the firemen arrived. The Hamilton department found a hard contest ahead of them, having battled the blaze for more than an hour before it was considered to be under control. The interior of the plant was gutted in one section and much of the machinery and considerable stock ruined. The concern has made considerable progress since the fire in clearing up the debris and is making rapid strides in preparing for reconstruction work which already is under way. Shelton Burris is the general manager of the company.

Gummed Products Sample Book Issued

The Gummed Products Company, manufacturers of gummed tape, paper and cloth, and super flat gummed papers, of Troy, Ohio, have just published a new Flat Gummed Paper Sample Book. As is well known, these papers are made in one of the best equipped gumming plants in the country.

It is the policy of the Gummed Products Company to sell its flat gummed papers to paper merchants under their own private brands. Many paper distributors are beginning to see the wisdom of this policy because under their own private brands they are building up a reputation for themselves.

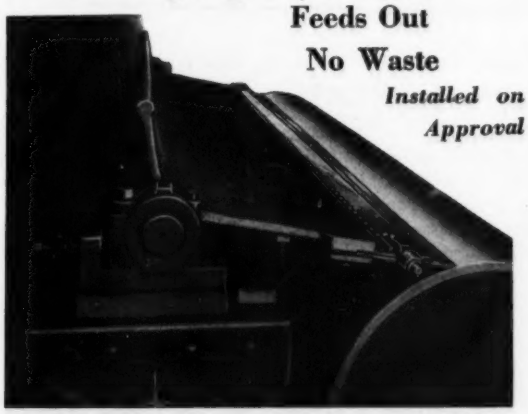
In connection with this sample book, the Gummed Products Company has recently issued a new price list. Any fine paper merchant who has not received a copy may secure one upon application.

Sylvania Industrial Corp. Starts

The first unit of the new plant of the Sylvania Industrial Corporation of Fredericksburg, Va., for the manufacture of transparent cellulose wrapping paper, was put into operation on May 24. Completion of other units is being rushed and they are expected to be in operation shortly.

Coincidently, prices for transparent cellulose wrapping have been reduced approximately one-quarter cent per thousand square inches.

NO LEAKS — NO STREAKS
with the
New Lodding Press Doctor
Self Aligning Flexible Blade
Feeds Out
No Waste
Installed on Approval



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WORCESTER, MASS.

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Solve these once for all . . .

A better sheet at no greater cost.
Clay fluid enough to handle through pipes and screens with less water.
Elimination of slime in beaters, save-alls and jordans.
An acid-proof cement for your digester linings.
Capping rolls at a saving of time and expense.
Dust-proofing and hardening concrete floors.

. . . with
Quartz Quality Silicate of Soda

Bulletin No. 6 gives you the details. Mailed without obligation to any paper mill.

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1864 1930

"EXCELSIOR" FELTS

for every grade of
PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America.

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
CAMDEN, MAINE

SOLD BY
BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y., and direct

LINDSAY SPIRAL WEAVE FOURDRINIER WIRES

prevent grooving of Seams on machines not equipped with oscillating Suction Boxes. This lengthens the life of wires and increases their production.

THE LINDSAY WIRE WEAVING CO.

14025 Aspinwall Ave.
CLEVELAND, OHIO

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, July 2, 1930.

Trading in the local paper market was only moderately active during the past week. Demand for the various standard grades of paper was mostly along routine lines. Sales forces of the leading paper organizations are booking occasional good orders and are more optimistic regarding the future of the industry. Prices are generally steady and unaltered.

Conditions in the news print market are fairly satisfactory. Production is being maintained at around 72 per cent of capacity in the United States and British North America. Shipments against contract are going forward to the publishers in good volume for the season. There have been no further developments in the price situation although the outlook is more favorable.

Production of paper board is being maintained in normal volume for the time of year. Demand for box board is fairly persistent. The price situation continues involved. The fine paper market continues to exhibit a strong undertone, with prices steady to firm. Some improvement was noticed in the coarse paper market and wrapping paper is moving in fairly good volume.

Mechanical Pulp

Steadiness prevails in the ground wood market. Offerings of both domestic and imported mechanical pulp are adequate for current requirements. Inquiries for future needs are fairly numerous. Prices are generally holding to previously quoted levels and there is little talk of concessions around at present.

Chemical Pulp

Business in the chemical pulp market continues rather quiet. Demand for most of the grades of both imported and domestic chemical pulp is light, with the exception of kraft pulp, which is in excellent request, due mainly to the attraction of recently reduced quotations. The contract movement is well up to average for the time of year.

Old Rope and Bagging

The old rope and bagging market has been rather listless of late. Demand for imported and domestic manila rope is restricted and prices are easy. Foreign manila rope is now being quoted at from $3.25 to $3.40. Domestic manila rope continues unchanged. Scrap bagging is moving in fair volume. Gunny is steady and unchanged. Roofing bagging is not arousing much interest.

Rags

Most of the business transacted in the local domestic rag market was along routine lines. Cotton cuttings are in excellent request at present, and are in a strong position, as offerings are somewhat limited. Demand for roofing rags is restricted and prices are easy. The position of the imported rag market is unchanged and prices abroad are still considered too high.

Waste Paper

Because of the mid-inventory season the board mills are holding off buying. It is expected that the mills will come into the market after July 1, to what extent depends on the volume of the manufacturers business. Prices are firmer and advances have been registered on both news and mixed papers. The better grades continue at about the same level, except for a slight decline on old kraft papers.

Twine

Demand for the various grades of twine is mostly seasonal. Supplies are moving into consumption in a fairly gratifying manner for the time of year. There are a number of inquiries for future needs around. Despite keen competition for extra desirable orders, prices are generally holding to schedule and shading is infrequent.

PAPER REPORT GOES TO SENATE

(Continued from Page 38)

The margin of profit is not unreasonable, the Commission observes, comparing the price paid by the publisher purchasing on contract in carload lots with the prices charged by jobbers for paper in rolls and sheets.

It was following the International Paper-Hearst contract that leading Canadian manufacturers, at the instance of the two provincial prime ministers, organized the Newsprint Institute of Canada, which controls about seventy per cent of the Dominion's paper production. Its purposes were to restrict production to the quantity sold, to allocate orders to the constituent mills on the basis of their daily rate capacity, and to fix prices. Unsuccessful efforts were made to induce Canadian International Paper Company, a subsidiary of International Paper Company, to join the institute. During its news print investigation the Federal Trade Commission sent letters to twenty-seven newsprint paper manufacturers in Canada requesting information similar to that asked of domestic mannfacturers. Only five of these companies submitted any portion of the data requested so that statistics in the Commission's report are not complete as to operations of Canadian news print manufacturers in the United States.

Data involving purchases and sales of news print paper including quantity handled, purchase price and selling price annually for the years 1924-1929 were obtained from jobbers of this kind of paper. This enabled the Commission to determine the margin between the price charged by the manufacturer and the jobber, from whom most small newspapers buy their news print. Fifty-two owners of chains of newspapers told the Commission of their experience in purchasing paper. These chains publish 266 daily and 101 weekly newspapers consuming about 1,490,000 tons of news print each year. The twenty-five daily Scripps-Howard newspapers leads the chain group in number of papers owned while William R. Hearst and Ira C. Copley have twenty-two papers, Hearst presses use 540,000 tons a year.

The Commission compiled a statement covering 100 large daily newspapers in thirty-eight cities showing the approximate tonnage of news print consumed annually by each, as well as the average number of pages and estimated circulation of each issue. The cities covered are Atlanta, Baltimore, Birmingham, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Dayton, Des Moines, Denver, Detroit, Forth Worth, Houston, Indianapolis. Kansas City, Los Angeles, Louisville, Memphis, Milwaukee, Minneapolis, Newark, New Orleans, New York, Oakland, Omaha, Philadelphia, Pittsburgh, Portland, Ore., Richmond, St. Louis, St. Paul, Seattle, San Francisco Toledo, and Washington. Forty-two paper mills in the United States produce news print paper while there are thirty-eight such mills in Canada. In 1929 the United States produced 1,392,276 tons; Canada 2,728,827 tons.

Cotton and Paper Rolls
Super Calenders
Friction Calenders
Embossing Calenders
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Successors to the Granger Foundry & Machine Co.

The Textile-Finishing Machinery Company
PROVIDENCE, R. I.

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1930 EDITION

City Addresses of Mills and Mill Supply Houses
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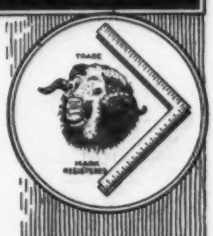


THE WATERBURY FELT CO., SKANEATELES FALLS, N.Y.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, July 2, 1930.

BLANC FIXE.—Trading in the blanc fixe market was mostly along routine lines during the past week. Prices are generally holding to schedule. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder was moderately active. Contract shipments are moving in a fairly satisfactory manner. Prices are being maintained at formerly quoted levels. Bleaching powder is selling at from $2.00 to $2.35 per 100 pounds, in drums, at works, according to quantity.

CASEIN.—Uncertainty prevails in the casein market due to the increased import duty. Domestic standard ground is quoted at 13½ cents and finely ground at 15 cents per pound; Argentine standard ground is selling at 13½ cents and finely ground at 14½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market is practically unchanged. Shipments against contract are proceeding in good volume. Solid caustic soda is still quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, all in bags, car lot quantities.

CHINA CLAY.—Demand for china clay is mostly seasonal. The contract movement is well up to average for the time of year. Prices are steady. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Competition for desirable orders is particularly keen in the chlorine market and prices are decidedly easy. Production has been heavy and offerings are ample. Chlorine is quoted from $2.40 to $2.45 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—There was little improvement noticed in the rosin market. Prices are weak. The grades of gum rosin used in the paper mills are now quoted at from $6.55 to $6.60 per 280 pounds, in barrels, at yards. Wood rosin is selling at from $6.25 to $6.35 per 280 pounds, in barrels, on dock.

SALT CAKE.—The salt cake market is exhibiting a strong undertone. Demand is fairly persistent. Offerings are rather limited. Prices remain unaltered. Salt cake is quoted at from $22 to $25 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—Supplies of soda ash are moving into consumption at a satisfactory pace. Inquiries for future needs are fairly numerous. Prices are generally holding to schedule. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½; and in barrels, $1.55.

STARCH.—Conditions in the starch market are fairly satisfactory. Contract shipments are going forward to the paper mills in god volume. Prices are steady. Special paper making starch is quoted at $3.72 per 100 pounds, in bags, and at $3.99 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Steadiness prevails in the sulphate of alumina market. Prices are generally holding to formerly quoted levels, without difficulty. Commercial grades are still quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market was rather quiet during the past week. Sulphur is still quoted at $18 per ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over the same period. On spot and near by car loads, the quotation is still $21 per ton.

TALC.—Most of the business transacted in the talc market during the past week was along routine lines. Prices are holding to schedule. Domestic talc is selling at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is offered at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	9.00	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	8.00	@	11.00
Book, Cased—			
S. & S. C.	6.00	@	7.50
M. F.	5.75	@	7.00
Coated and Enamel	7.50	@	12.00
Lithograph	7.50	@	12.00
Tissues—Per Ream—			
White No. 1	.75	@	1.00
Anti-Tarnish	1.35	@	1.90
Colored	1.00	@	2.00
White No. 2	.75	@	.80
Kraft	1.00	@	1.10
Manila	.75	@	.80
Kraft—			
No. 1 Domestic	5.75	@	6.25
No. 2 Domestic	3.75	@	5.00
Southern	3.75	@	4.75
Imported	6.50	@	7.00
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.75	@	5.25
No. 2 Wood	4.00	@	4.50
Butchers	3.75	@	4.25
Fibre Papers—			
No. 1 Fibre	5.00	@	5.50
No. 2 Fibre	4.75	@	5.25
Common Bogus	2.75	@	3.00
Screenings	3.00	@	3.25
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs.	13.00	@	16.00
Bleached, basis 20 lbs.	15.00	@	16.00

(Delivered New York)

News, per ton—			
Rolls, contract	62.00	@	—
Rolls, spot	62.00	@	—
Sheets	67.00	@	—
Side Runs	47.00	@	52.00
Boards—per ton—			
News	37.50	@	—
Straw	50.00	@	—
Chip	35.00	@	—
Binders' Boards	65.00	@	70.00
Wood Pulp	90.00	@	95.00
65 Test Jute Liner	37.50	@	40.00
85 Test Jute Liner	42.50	@	45.00
Sgl. Mla. Ll. Chip.	47.50	@	50.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	28.00	@	30.00
Dry	30.00	@	32.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@	30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	3.00	@	4.25
Easy Bleaching	2.70	@	2.90
No. 1 strong unbleached	2.40	@	2.65
Mitscherlich unbleached	2.50	@	2.85
No. 2 strong unbleached	2.35	@	2.50
No. 1 Kraft	1.75	@	2.15
No. 2 Kraft	1.65	@	1.85
Sulphate—			
Bleached	3.40	@	3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	3.00	@	4.75
Easy Bleaching Sulphite	2.55	@	2.85
News Sulphite	2.35	@	2.60
Mitscherlich	3.00	@	3.25
Kraft (Domestic)	2.10	@	3.30
Soda Bleached	2.90	@	3.20

Domestic Rags

New Rags

(Prices to Mill f. o. b N. Y.)

Shirt Cuttings—			
New White, No. 1	9.00	@	9.50
New White, No. 2	7.00	@	7.50
Silesias No. 1	7.25	@	7.50
New Unbleached	10.00	@	10.50
New Blue Prints	5.25	@	5.50
New Soft Blacks	5.25	@	5.75
Blue Overall	7.00	@	7.50
Washables	4.50	@	5.00
Fancy	5.25	@	5.75
Mixed Khaki Cuttings	4.75	@	5.25
Pink Corset Cuttings	8.00	@	8.50
O D. Khaki Cuttings	5.15	@	5.75
Men's Corduroy	3.75	@	4.25
New Mixed Blacks	3.50	@	3.75

Old Rags

White, No. 1—			
Repacked	5.50	@	6.00
Miscellaneous	4.50	@	5.00
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.50	@	2.75
St. Soiled, White	2.00	@	2.15
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.50	@	1.60
No. 1	1.50	@	1.60
No. 2	1.15	@	1.25
No. 3	1.10	@	1.20
No. 4	1.00	@	1.10
No. 5A	.90	@	1.05

Foreign Rags

New Rags

New Dark Cuttings	2.50	@	3.00
New Mixed Cuttings	2.75	@	3.25
New Light Silesias	7.00	@	7.50
Light Flannelettes	7.25	@	7.75
Unbleached Cuttings	9.75	@	10.25
New White Cuttings	9.00	@	9.50
New Light Oxfords	7.00	@	7.50
New Light Prints	5.25	@	5.75

Old Rags

No. 1 White Linens	7.25	@	8.00
No. 2 White Linens	5.75	@	6.75
No. 3 White Linens	4.75	@	5.25
No. 4 White Linens	3.00	@	3.50
No. 1 White Cotton	5.50	@	6.50
No. 2 White Cotton	2.75	@	3.75
No. 3 White Cotton	3.00	@	4.00
No. 4 White Cotton	1.95	@	2.15
Extra Light Prints	2.75	@	3.00
Ord. Light Prints	2.25	@	2.50
Med. Light Prints	1.95	@	2.10
Dutch Blue Cottons	2.15	@	2.30
French Blue Linens	2.65	@	2.75
German Blue Linens	2.30	@	2.50
German Blue Cottons	2.00	@	2.10
Checks and Blues	1.85	@	2.00
Lindsay Garments	1.60	@	1.70
Dark Cottons	1.15	@	1.25
Old Shopperies	1.10	@	1.20
New Shopperies	1.20	@	1.25
French Blues	2.00	@	2.10

Old Rope and Bagging

(Prices to Mill f. o.b. N. Y.)

Gunny No. 1—			
Foreign	1.65	@	1.75
Domestic	1.65	@	1.75
Wool Tares, light	1.60	@	1.65
Wool Tares, Heavy	1.60	@	1.70
Bright Bagging	1.60	@	1.70
Small Mixed Rope	1.25	@	1.40
Manila Rope—			
Foreign	3.25	@	3.40
Domestic	3.50	@	3.75
New Burlap Cut	2.50	@	2.75
Hessian Jute Threads—			
Foreign	3.50	@	4.00
Domestic	3.25	@	3.50

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	3.00	@	3.25
Hard, white, No. 2	2.40	@	2.55
Soft, white, No. 1	2.65	@	2.75
White envelope cuttings	2.90	@	3.10
Flat Stock—			
Stitchless	1.40	@	1.50
Overissue Mag.	1.40	@	1.50
Solid Flat Book	1.30	@	1.40
Crumpled No. 1	1.00	@	1.10
Solid Book Ledger	2.00	@	2.10
Ledger Stock	1.30	@	1.40
New B. B. Chips	.35	@	.45
Manilas—			
New Env. Cut.	2.40	@	2.60
New Cuttings	1.50	@	1.75
Extra No. 1 old	1.25	@	1.35
Print	.60	@	.65
Bogus Wrapper	.60	@	.65
Container	.40	@	.50
Old Kraft Machine—			
Compressed bales	1.50	@	1.60
News—			
No. 1 White News	1.77	@	1.87
Strictly Overissue	.50	@	.55
Strictly Folded	.40	@	.45
No. 1 Mixed Paper	.22	@	.27
Common Paper	.15	@	.20

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrappings, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¼	@	.07¼
No. 2 S.&S.C. Book	.05¼	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¼	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06¼
Sulphite Sreenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut-			
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.30	@	.35
No. 2 Mixed	.25	@	.35
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Krafts	1.30	@	1.40
New Kraft Cuts	1.50	@	1.70
Manila Envelope Cuttings	1.65	@	1.70
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.45	@	.50
Folded News (over-issue	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06¼
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.03¼
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05½	@	.06
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08¼	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.70
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.20
No. 2 Books, light	.90	@	1.00
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.35	@	1.40
Common Paper	.25	@	.35
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	6.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.25	@	1.30
Repacked	.80	@	.90
No. 2	.70	@	.75
No. 3 (Roofing)	.30	@	.40
No. 4	.30	@	.40
No. 5A	.70	@	.75
B	.40	@	.60
C	.25	@	.30

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.06
No. 2 Kraft	.03¾	@	.05
(Less car-freight to Boston)			
Southern Kraft	.03¾	@	.04¾
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls	.009		52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.50	@	2.60
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	2.25
No. 1 Books, Heavy	1.30	@	—
No. 1 Books, Light	1.05	@	—
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.50	@	1.60
Old Kraft	1.35	@	1.45
Print Manila	.75	@	.80
No. 1 Mixed Paper	.20	@	—
Overissue News	.40	@	.50
Old Newspapers	.35	@	.40
Box Board, Chip	.45	@	.50
Corrugated Boxes	—	@	.40

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.75
Domestic	1.45	@	—
Manila Rope—			
Foreign	3.00	@	3.25
Domestic	3.50	@	—
Transmission Rope	2.25	@	2.40
Mixed Strings	.90	@	—
Jute Wool Strings	.90	@	1.00
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	1.25	@	1.40
Scrap Sisal	1.50	@	1.75
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.75	@	2.00
Australian Wool Pouches	2.50	@	3.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08	@	.08½
Silesias No. 1	.06	@	.06¾
New Unbleached	—	@	.09¾
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¾
Khaki Cuttings	.04	@	.04¾
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.25	@	1.50
No. 2	.90	@	1.00
No. 3	.85	@	.90
No. 4	.75	@	.85

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.90	@	1.00
New No. 1 Shirt Cuttings	8.50	@	9.00
Dutch Blues	2.00	@	2.12½
Lace Curtains	4.50	@	4.75
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.25	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

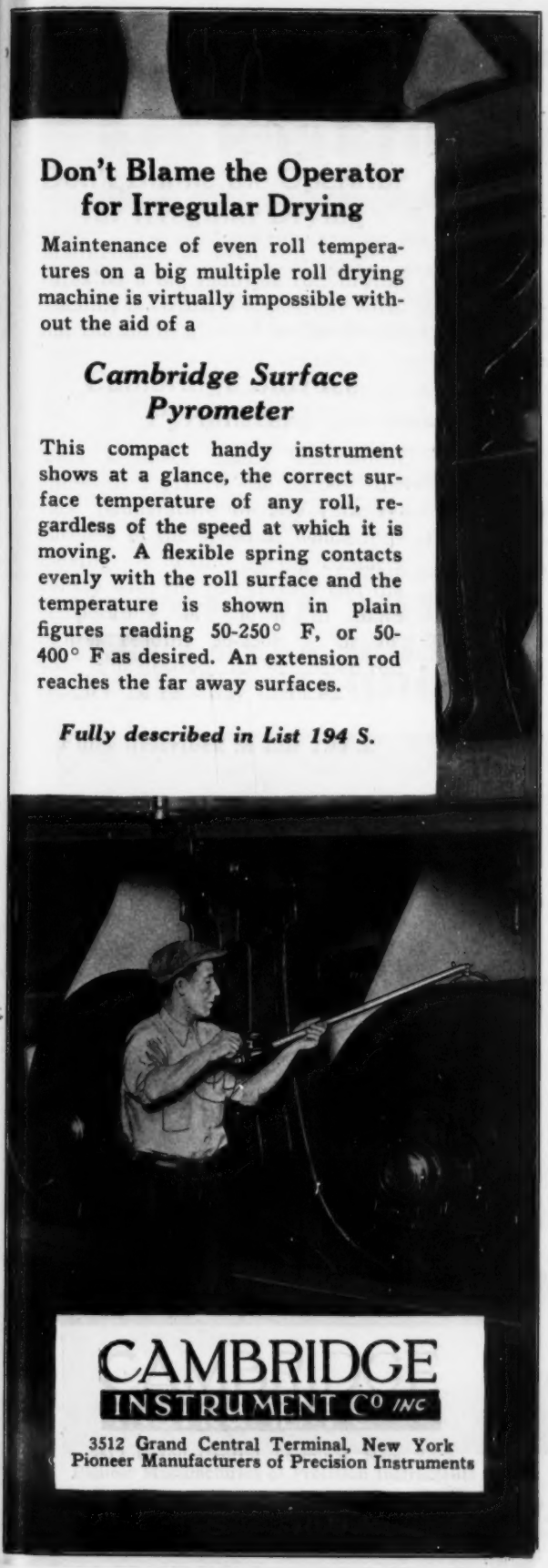
Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writ-			
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¼	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

Advertising matter paged consecutively with text, has been removed here to lessen the bulk of this volume.

INDIANAPOLIS
JUL 15 1930
PUBLIC LIBRARY



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Cambridge Surface Pyrometer

This compact handy instrument shows at a glance, the correct surface temperature of any roll, regardless of the speed at which it is moving. A flexible spring contacts evenly with the roll surface and the temperature is shown in plain figures reading 50-250° F, or 50-400° F as desired. An extension rod reaches the far away surfaces.

Fully described in List 194 S.

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3512 Grand Central Terminal, New York
Pioneer Manufacturers of Precision Instruments

PAPER TRADE JOURNAL

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THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-NINTH YEAR

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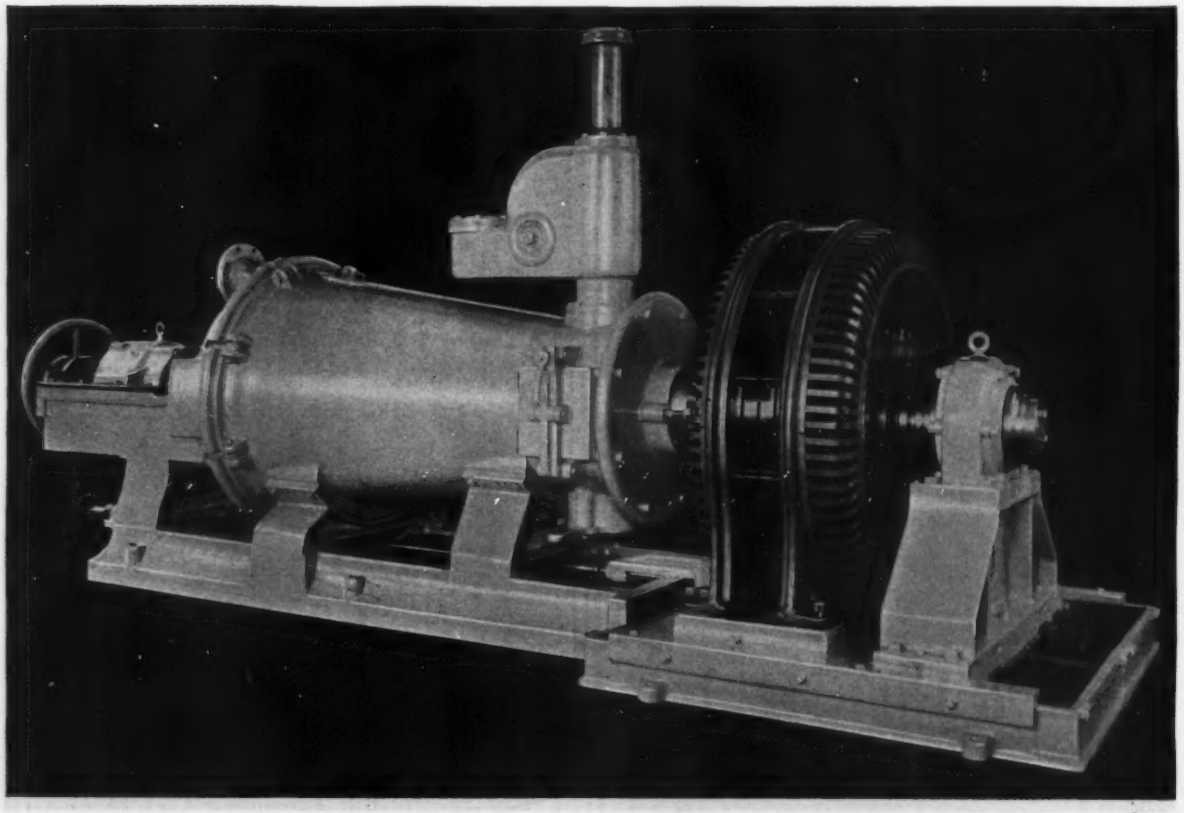
Mounting the motor direct on the shaft has given the Appleton Close-Coupled Jordan definite advantages that are unique with this modern Jordan. It had provided a more efficient, profitable power application, at the same time effecting an important reduction in installation costs. The elimination of the flexible coupling has removed a source of trouble and a cause of reduced efficiency. Full advantage has been taken of the precision of anti-friction bearings to promote accuracy of operation, smooth running and long life. Mounting the motor close to the load has also meant another decided advantage. It has reduced the over-all length twenty-five per-cent, making the Appleton Close-Coupled Jordan more adaptable to install and increasing the productiveness of floor space. Equipped with the Appleton Open-Throat Plug assuring the free entrance of the stock, the Appleton Close-Coupled Jordan provides the definite advantage of superior operating performance.

• THE APPLETON CLOSE - COUPLED JORDAN ENGINE



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